FEBRUARY
1952

fueloil & oil heat

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—with BRODIE *BiRotor* METERS

- **Fully self-contained readily-replaceable measuring unit employs just two moving parts.**
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- **Easily inspected and serviced without disturbing existing line connections.**
- **Rigidly encased in welded all-steel housing.**
- **Positive displacement with true rotary operation.**

—which all adds up to the finest in petroleum product metering, available today. When you're looking into meters, look into Brodie BiRotor Meters—it's what's inside that counts.

BRODIE ALL-STEEL BiRotor TRUE ROTARY METERS

RALPH N. BRODIE CO., INC. • 61st & LOWELL STREETS, OAKLAND 8, CALIFORNIA, U.S.A.

Division Offices: 550 SO. COLUMBUS AVE., MT. VERNON, N.Y. • 59 E. VAN BUREN, CHICAGO 5, ILL. • 302 SO. PEARL STREET, DALLAS, TEXAS
221 9th AVE., N. SEATTLE 9, WASH. • 2101 S. SAN PEDRO, LOS ANGELES 11, CALIF. • *REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES*

FEBRUARY Fueloil & oilheat 1952

VOLUME 11 NUMBER 2

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LEOD D. BECKER, *Chairman, Board of Directors*
ROBERT GRAY, *Editor* — BERT DUNPHY, *Assistant Editor* — A. G. WINKLER, *Advertising Manager*
New York Telephone: LExington 2-4566

Lee Steedle, Assistant Advertising Manager

Mid-West Manager: Harold J. Hannigan
549 W. Washington Blvd., Chicago 6 Phone: Financial 6-3221

Pacific Coast Representative: Don Harway
1709 West 8th St., Los Angeles 14, Cal. Phone: Dunkirk 2-8576

Among other things:

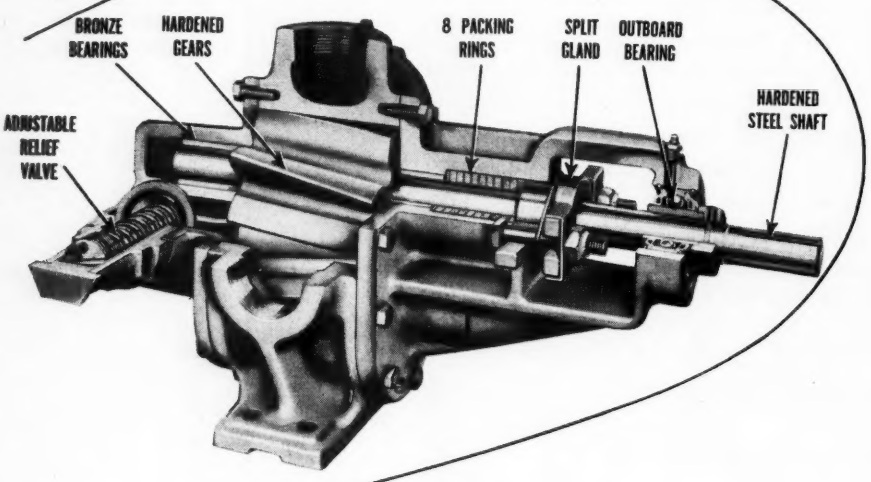
The lead article in this issue contains some rather enlightening viewpoints of how a woman regards the oilheating system in her home and, what is more important, what she expects from it and from the dealer who serves her.

A brief look at a real "specialist" contains some of the highlights of the Decker Bros. truck dealership in Hawthorne, N. Y. in the article on page 53.

Wepman is back with the second in his series on oilburner selling, this time telling how to "Use the new User" effectively and Ragle, too, returns with more searching analysis of fueloil distributorships—higher costs, lower margins percentagewise and the problems they bring.

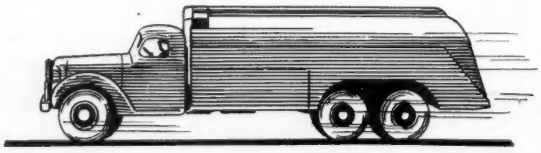
The two technical features by Douglass and Schulz are recommended for the up-to-date information they contain on fuel unit cut-offs and two pipe steam.

Specify ROPER Rotary Pumps FOR TANK TRUCK SERVICE



EASY TO INSTALL, OPERATE, SERVICE

Get the pump that delivers the goods speedily, efficiently. Specify this Roper 3600 Series pump which is specially designed to serve the needs of tank truck operations. • This is a complete unit, ready for hook-up on any type of drive, and for all conditions of piping and mounting. • It is complete with an adjustable relief valve which assures full capacity when pumping and allows nozzle shut-off without stopping the pump. • Bearings are high-lead bronze . . . packing box is deep and has 8 split-ring packings . . . split gland makes repacking easy . . . gears run smoothly in axial hydraulic balance. • The Roper Series 3600 truck pump is ideal for new installation or replacement . . . is built in 8 capacities from 40 to 300 g.p.m. • Send the coupon below and receive all the facts!



ROPER Rotary Pumps

GEO. D. ROPER CORPORATION
762 Blackhawk Park Avenue, Rockford, Illinois

☐ *Please Send Catalog 951.*
☐ *Have a Roper Representative Call*

NAME_____
ADDRESS_____
CITY_____
COMPANY_____

Names in the News

Frank J. Nunlist, Jr., has been named general sales manager, L. J. Mueller Furnace Co., Milwaukee, Wis., manufacturers of Mueller Climatrol heating and air conditioning equipment, succeeding C. L. Hewitt. He will direct the company's sales program. Nunlist is chairman of Central Heating Requirements committee, Gas Appliance Mfgrs. Ass'n; member of Research Advisory committee, National Warm Air Heating and Air Conditioning Ass'n. and member of the Guide committee, ASHVE. Previously, he served on the Furnace Advisory committee, National Production Authority and was a past president, ASHVE in Milwaukee.

Philip M. Stephenson has been elected president, Aldrich Co., Wyoming, Ill., a subsidiary of Breeze Corp. of which he is a member of the board of directors. He had been serving as vice-president and general manager since 1947. Formerly production manager of Chance-Vought Div., United Aircraft, Mr. Stephenson later became vice-president and general manager, Aircraft Standard Parts Co. before joining Aldrich.

Olaf G. Beestrum, Hilmer J. Hasenohrl and *Wesley C. Robinson*, were named district sales managers in the field sales organization expansion, Timken Silent Automatic Div., Timken-Detroit Axle Co., Detroit 32, Mich.

10 POINTS OF PROFIT

NO. 10 . . .

Heavy-duty Autocars are long-lived

Autocars have an extra margin of strength built into them. Every part is constructed for heavy duty—integrated with all the others to produce a truck or tractor that will lead the field in performance and dogged endurance. You can be certain that the Autocar you buy will operate within its capacity under your conditions of load. In fact, if you have never had Autocars, the best lies ahead for you. Stop in at the nearest Autocar Branch today and look these huskies over.

This is one of six Model U-90 Autocars delivered on the same order to Zone Oil Trucking Co., Inc., Brooklyn, N.Y., transporter for Paragon Oil Co., Inc. The handy short-wheelbase Autocars haul big loads in congested traffic—with the greatest of ease.

1 . . . Haul big loads
2 . . . Control the load
3 . . . Are strong all over
4 . . . Are dependable
5 . . . Are economical
6 . . . Make man-hours productive
7 . . . Keep pace with traffic
8 . . . Are custom built
9 . . . Have extra power when needed
10 . . . ARE LONG-LIVED

Autocar Trucks

The Autocar Company, Ardmore, Pa. • Established 1897
Factory Branches and Distributors from Coast to Coast

Beestrum, Hasenohrl, Robinson

Beestrum will be district manager for Iowa; Hasenohrl's territory includes Southern Illinois, Missouri, and Kansas and the sales district of Ontario, Canada will be headed by Robinson.

J. P. Blaul was elected president, Diamond Iron Works, Minneapolis 15, Minn., succeeding L. J. Reay. Prior to joining the company in 1951, Blaul operated his own business. Diamond Iron Works manufactures a variety of commercial and domestic equipment including oilburners.

Loring T. Cramer has succeeded Orville D. Judd as head of the Petroleum Branch, Office of Price Stabilization. Mr. Cramer is a veteran of 35 years' experience in the oil marketing field and formerly was an executive of the Continental Oil Co.

Alexis Doster, who had been sales manager of Torrington Mfg. Co., Torrington, Conn., for a number of years and then retired, has joined Mutual Securities Agency, Washington, D. C., successor to the ECA. Doster has been retained as a director of the Facilities and Equipment Division.

George Eulo has been named vice-president in charge of sales of Magnex Corp., Jamaica, N. Y. The firm produced oilburner ignition transformers and other electrical equipment. Eulo, who has been long identified with the oilburner industry, formerly was with Super Electric Products Corp., Newark, N. J.

C. Gordon Biggar was promoted by Shell Oil Co., 50 West 50th St., N. Y. 20, N. Y., to manager of public relations. Other promotions in the public relations dept. were: *Robert G. Pearson,* manager of publicity and information div.; *Hugh F. Mulvaney,* manager of special projects div. and *Frederick H. Roberts,* art director and head of the production and distribution section.

Walter P. Peterson now represents the Kewanee Boiler Corp., Kewanee, Ill., in the Des Moines Branch territory succeeding George W. Bogardus who is retiring after 37 years.

Dudley B. Robinson was elected vice-president in charge of sales, Torrington Mfg. Co., Torrington, Conn. Mr. Robinson joined Torrington in 1949 as sales director of the air impeller div. and prior to his new post was general sales manager. Previously, Robinson had been affiliated with the Warren McArthur Corp., the General Fireproofing Co., and was vice-president, Harding Bros., Chicago, Ill.

(*Please turn to page* 137)

picture of a superior
OIL BURNER NOZZLE
You'll like the "performance picture" an Eddington Oil Burner Nozzle presents, too. Because its scientifically correct spray angle, atomization and rated capacity serve to reduce service interruptions to an absolute minimum, keep you and your customers happy with fewer callbacks. Another feature—the large capacity Monel strainer in each nozzle keeps orifice and slots from plugging. Like all our products, Eddington Oil Burner Nozzles are factory-tested and guaranteed.
OIL BURNER FILTER
Big in filter area. Needs infrequent cartridge change. Does a thorough filtering job.
Drop us a card for full and prompt information on any of the products listed below.
Eddington METAL SPECIALTY COMPANY
EDDINGTON PENNSYLVANIA
MAKERS OF
FILTERS • NOZZLES • VALVES • STABILIZERS
AIR CONES • STRAINERS • INSPECTION MIRRORS
ADAPTORS • SERVICEMEN'S NOZZLE KITS

NOW—

A New Sun-Ray Burner for the Small Home

More Efficient than Ever Before

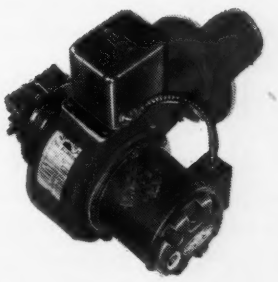
SUN-RAY MODEL 1C-A-E

Ideal for Small Boilers and Furnaces requiring 0.65-0.75-0.85-1.00 up to 1.25 G.P.H.

Approved by Underwriters' Laboratories, Inc. to burn from 0.5 to 1.35 G.P.H. under Commercial Standards CS 75-42

This new addition to the famous, big SUN-RAY line is specially designed to give utmost efficiency at lowest cost when firing even the smallest boilers or furnaces. The unique method of mixing air and oil has amazed many manufacturers of small boilers and furnaces. Simplicity in design, avoiding complicated adjustments, makes the Model 1C-A-E easy to install and service.

Available either in pedestal or various types of flange mountings. Meets practically every installation and space requirement. Built of highest quality parts to meet the most exacting standards. Provides clean, efficient, economical combustion.



SUN-RAY FULLY AUTOMATIC OIL BURNERS

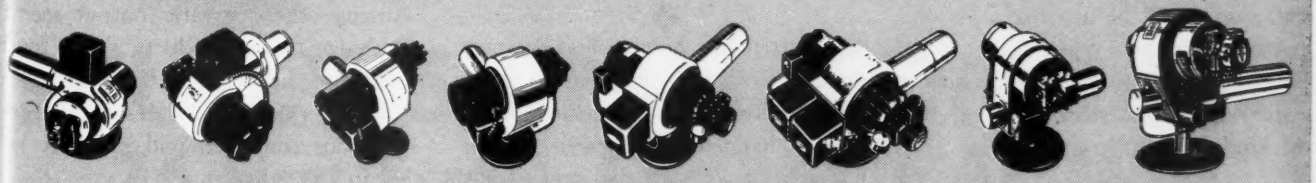
Ask for the Facts today

ATTENTION — BOILER AND FURNACE MANUFACTURERS

SUN-RAY's engineering department stands ready to cooperate in adapting Sun-Ray Burners to your particular requirements.

SUN-RAY BURNER MANUFACTURING CORP. 139-22 Queens Boulevard, Jamaica 2, New York

SUN-RAY — FAMOUS THE WORLD OVER FOR QUALITY AND ECONOMY



14 Models for Every Heating Need in Sizes from 0.5 to 25 g.p.h.

Editorial Leaks

THE OILHEATING INDUSTRY has been in one kind of scrap or another through most of its history. We were fighting competitive fuels, still are, we were fighting restrictive ordinances of one sort or another, we were fighting inflated labor demands or a dozen other pressures. So we're scrappers.

But now comes the Government preaching in every way that it knows how, "Get in the scrap," and it doesn't mean Korea. This is the other kind of scrap, the kind that makes it possible for your boys in the war to carry on their scrap. Not only that, but it makes possible more steel for tanks and boilers that you will urgently need to increase your business this year.

It's odd about steel. It can't be made new without imbibing some of the bones of its ancestors. New steel must contain at least one-fourth old scrap gathered about the country. The old stuff is the culture from which the new stuff incubates.

Steel making capacity is rising every month, sparked by defense production prosperity. It happens that people in general are prosperous too, and they don't think much about the few dimes or dollars lying around in bits of junk, so they fail to call the scrap man to come get it.

Oilheating dealers handle a great deal of metal. In the workroom, in the basement, in the back lot every dealer has old stuff tucked around . . . obsolete items from old jobs. It's true you might use them some day in the far future, but it's equally true, and more vital, that you'll be needing a lot of new steel items this year.

So in addition to fighting gas competition let's fight steel shortage, be both kinds of scrappers.

❖

THERE WAS a complete story in the headline of the story on page 60 of the January issue—"Dealer Gross is up; Selling slumps." The theme is old, of course, and it's hard to find anyone who will disagree with the statement that what the industry needs is a return to good old-fashioned sales fundamentals.

At the same time, it's often more difficult to find an oilheating dealer who is making any real attempt to meet the challenge. Taking care of the wants of the people who come into the showroom and ask to be sold an oilburner is an ideal—and profitable—way to run a business, but those sales would be made anyway.

The significance of the situation is in the sales that are lost because nobody ever took the trouble to go after them. Nobody pushed doorbells, indulged in any cold canvassing or made any of the other efforts that could have been made to uncover prospects for burner sales.

To paraphrase Mark Twain, don't you honestly agree it's time to stop talking about how much we need sales effort and begin to put the talking into practice?

❖

THE NEW YORK oilheating industry continues to get unfavorable publicity over the permit racket. James Moran, erstwhile boss of this activity for the fire department, is on trial, accused of taking a half million dollars a year from oilburner installers to approve their jobs before the owners could have a permit to store oil on the premises.

Radio newsmen speak of this scandal all too frequently for the good of the industry. The public naturally assumes that bad installations were passed for a donation. That was not often true. Actually, the inspection gratuities were paid by practically all dealers in the city to get prompt inspections . . . otherwise the inspector might be "too busy" for months. Anyway, the sooner the publicity stops, the better.

❖

A FAVORITE armchair or fireside sport these winter days when you can't play golf is estimating or forecasting what's going to happen to business in the year just starting. One of the most widely respected annual forecasts is put out in a bulletin of the Cleveland Trust Co. The following paragraphs are from a recent issue:

"The physical volume of industrial production, as measured by the Federal Reserve index, averaged about 220 for 1951. For 1952 the monthly average will probably exceed that figure, but not by more than 6 percent.

"The national income in 1952 will show an increase over 1951. Total personal income is likely to be above the 1951 figure by at least 5 percent. The proportion of personal income, after taxes, which will be used for consumption expenditures will probably be higher than the 1951 percentage; and that used for "saving," correspondingly lower.

"The wholesale price index of all commodities averaged about 180.5 for 1951. The monthly average for 1952 will be higher, but not over 188.

"The cost-of-living index for 1952 is likely to be higher, but not much.

"The dollar volume of retail sales will probably be larger than in 1951, perhaps by more than 5 percent.

"Labor costs, both wage rates and fringe benefits, will be higher.

"The total dollar volume of construction in 1952 will probably be from 5 to 10 percent lower than 1951.

"Home building will decline by at least 15 percent, and perhaps by more than 20 percent, as measured by the number of new permanent nonfarm dwelling-units started. Business spending for new plant and equipment, where related to defense projects, may be greater than in 1951; but for less essential projects it is likely to be lower.

"The output of durable goods which are directly or indirectly important to the defense program, such as steel ingots and machinery, will increase over 1951. Production of durable goods for civilians is likely to be lower. Passenger automobile production will probably be more than 15 percent under 1951.

"Production of nondurable goods as a whole will be larger than in 1951. Among others, greater output seems likely for textile products, shoes, food products, chemicals, and petroleum.

"Net profits, after taxes, of all corporations combined will probably be less in 1952 than in 1951.

"The output of paper for Government forms will increase."

The preceding 11 pages carry factual proof of why equipping your customers' basement tanks with VENTALARM Signal will be one of the BEST INVESTMENTS you ever made. Do something about it while you can!

Critical labor and equipment shortages can hit your company and ours anytime. The benefits of VENTALARM Signal are multiplied many times under such conditions. Build and protect your profits by placing your order right now.

When Ordering FROM YOUR SUPPLY HOUSE

CONSIDER . . .

Entire equipment of all inside Tanks with VENTALARM Signals

This would probably be not more than 85% of the customers you have. Every company has some bad credit risks and various other reasons which would eliminate at least 15% of their customers.

Equipment of all "keep full" customers

These customers form the backbone of your business and should undoubtedly receive primary consideration.

Equipment of a delivery area

Some companies, when starting with VENTALARM Signal, have selected an area of 200 to 500 accounts on which to begin.

Equipment of customers who are seldom at home

An analysis of your accounts would disclose certain customers who are particularly hard to find at home. Some of them may even be on night delivery schedule.

Equipment of restaurants and small stores

In places of this type there is often much time wasted. Tanks are inaccessible. Boxes and crates sometimes have to be moved. (Note: If heavy oil is used, there is a special industrial VENTALARM Signal available.)

Order whatever your judgment dictates! Just remember — the MORE VENTALARM Signals you have in use — the GREATER will be your yearly profit. BE SURE TO ORDER OUR "LC" MODELS (quick compression fitting, no pipe threading) FOR EQUIPPING OLD TANKS. Different sizes available for different size vents.

Your Supply House is Ready to Serve You *Now!*

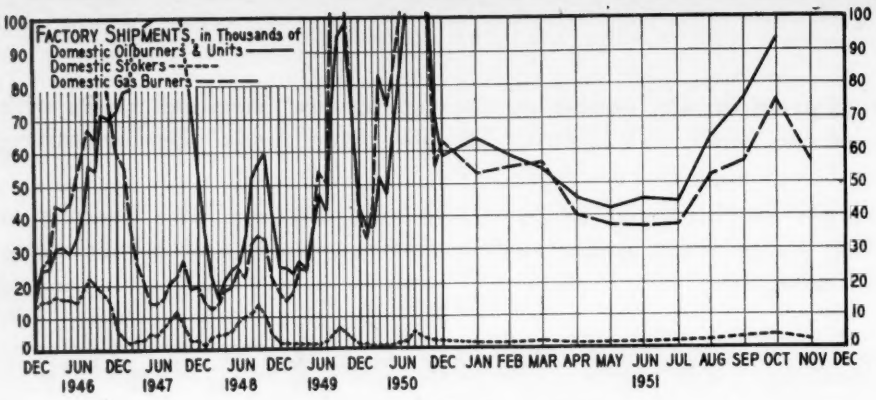
If you wish samples of customer promotional literature and plans, write us and we'll send them at once!

VENTALARM®
WHISTLING TANK FILL SIGNAL

SCULLY SIGNAL COMPANY

76 First Street, Cambridge 41, Mass.

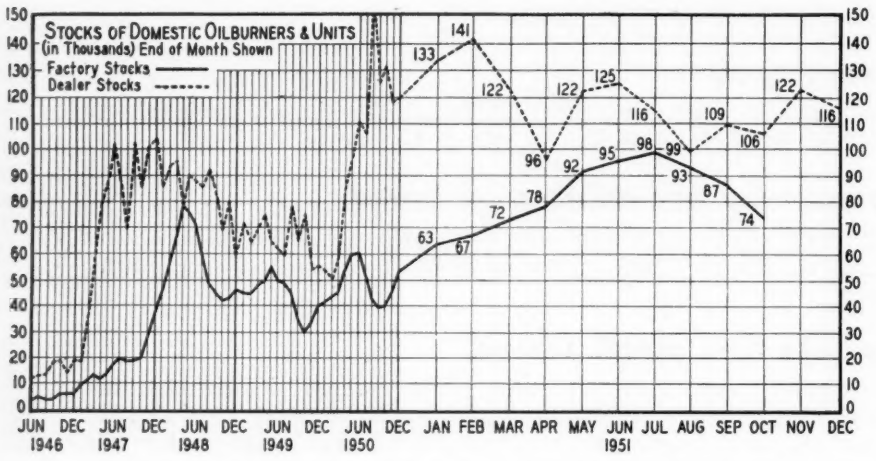
Canadian Licensee: EMPIRE BRASS MFG. CO., LTD., London, Ontario


FACTORY SHIPMENTS, in Thousands of
Domestic Oilburners & Units
Domestic Stokers
Domestic Gas Burners
DEC JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1946 1947 1948 1949 1950 1951

Shipments of Oilburners and Units
(Including Exports)

Adjusted to include manufacturers other than the 147 reporting to Census Bureau, FUELOIL & OIL HEAT'S estimates of shipments are:

	OCTOBER			TEN MONTHS		
	1951	*1950*	*Percent Change*	*1951*	*1950*	*Percent Change*
Conversion	67,597	81,807	— 17.3	417,782	576,907	— 27.6
Boiler Units	7,272	9,844	— 26.1	50,128	78,002	— 35.7
Furnace Units	19,297	24,041	— 19.7	121,432	141,158	— 13.9
All Domestic	94,166	115,692	— 18.6	589,342	796,067	— 25.9
Commercial	3,400	4,350	— 21.8	34,551	28,426	+ 21.5
Total	97,566	120,042	— 18.7	623,893	824,493	— 24.3


STOCKS OF DOMESTIC OILBURNERS & UNITS
(in Thousands) End of Month Shown
Factory Stocks
Dealer Stocks
JUN DEC JUN DEC JUN DEC JUN DEC JUN DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
1946 1947 1948 1949 1950 1951

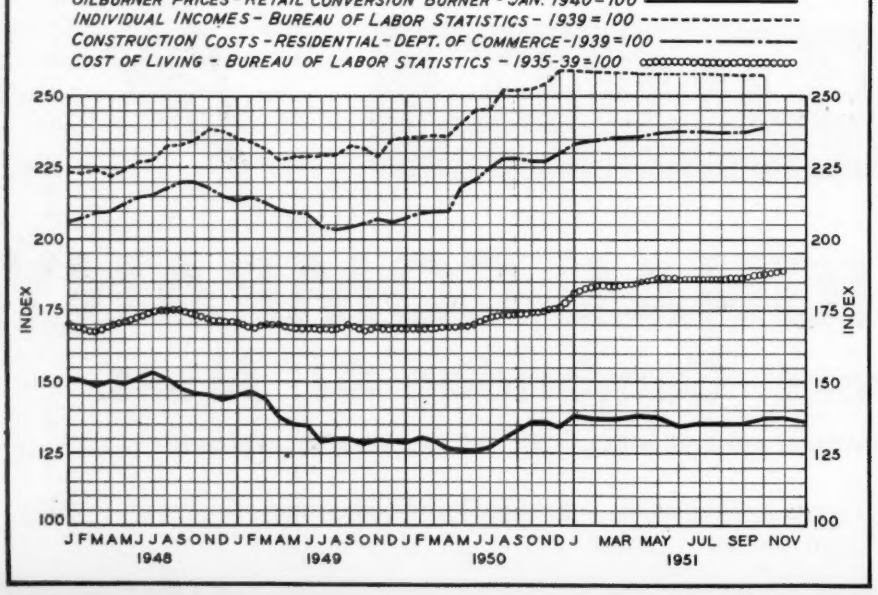
December Minimum Retail Prices: Key Dealers

	CONVERSION BURNERS	BOILER-BURNERS	FURNACE-BURNERS
December Aver.	$330	$695	$633
November Aver.	326	694	640

Price Index: Conversion Burners: January 1940 is 100%

	WHOLESALE				RETAIL			
December	137.2	Six months ago	137.6	December	136.3	Six months ago	135.9
November	138.3	Year ago	137.9	November	136.8	Year ago	135.3

OILBURNER PRICES COMPARED TO GENERAL INDEXES


OILBURNER PRICES - RETAIL CONVERSION BURNER - JAN. 1940 = 100
INDIVIDUAL INCOMES - BUREAU OF LABOR STATISTICS - 1939 = 100
CONSTRUCTION COSTS - RESIDENTIAL - DEPT. OF COMMERCE - 1939 = 100
COST OF LIVING - BUREAU OF LABOR STATISTICS - 1935-39 = 100
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1948 1949 1950 1951

Oilheating Trends

INSTALLATIONS of domestic oilburners and units during December are estimated at 44,580 or 14% above December 1950. This estimate of course is based on returns from the regular monthly group of reporting dealers in all sections of the country. Total installations for the full year, adding the individual monthly estimates, come to 694,524. It will be recognized that this figure is slightly higher than the figure for the full year published in the January issue of FUELOIL & OIL HEAT, which was 692,202. The January issue figure is based on a special large study made in December of each year, in which several hundred dealers supply the figures. In the April issue there will be a revised final figure and when that has been determined there will be a table of installations by states.

The December installations were divided: New homes 19,071; Replacements of old oilburners 8,392; Conversions from other fuels 17,117. The January issue had a better coverage on these types of installations and if you have been keeping monthly totals on these we would suggest that you revise those to use the January issue figures. For the full year these were: New homes 261,652; Replacements of old oilburners 94,139; Conversions from other fuels 336,411.

BURNER STOCKS: Dealer stocks of domestic oilburners and units on January 1 were approximately 116,242. This was divided: Conversion burners 74,620; Boiler-burner units 17,880; Furnace-burner units 23,742. The only significant change during December was a drop of about 7,000 in boiler-burner units, indicating that the tight situation in steel plate has become important. Factory stocks on October 31, the latest available data, were 74,014 domestic burners and units.

TANK STOCKS: On January 1 dealers had in stock approximately 109,105 customer storage tanks. This compares with 113,457 on December 1 and with 76,130 on January 1 last year. The average price paid by dealers in December for a 275-gallon tank was $41. This compares with $43 the previous month and $44 in December 1950.

Sell The Chrysler Airtemp *Comfort Zone*

A Dealer Opportunity with $ Appeal

A 10 POINT DEALER PLAN

1. Chrysler Airtemp—a recognized name and a division of a famous, nationally-known manufacturer, Chrysler Corporation—provides an unequalled engineering background.
2. All Chrysler Airtemp products are sold through factory-appointed Chrysler Airtemp dealers.
3. Chrysler Airtemp dealers are appointed on the basis of local market opportunities.
4. Chrysler Airtemp products cover three basic markets — residential, commercial and industrial.
5. Chrysler Airtemp engineered and pioneered the original "Packaged" Air Conditioner and developed the first Year-'Round air conditioning (combination heating *and* cooling) system for the home. The cooling unit alone can be added to any forced warm air furnace.
6. Chrysler Airtemp offers dealers a wide range of capacities in warm air furnaces for gas and oil—cooling units, from ¾ HP to 100 HP—air filters and dehumidifiers.
7. Chrysler Airtemp sales programs are designed to capture both new and replacement markets, plus service revenue.
8. Chrysler Airtemp maintains 15 Regional Sales Offices, a corps of field engineers and experienced district representatives to help the dealer.
9. Chrysler Airtemp national advertising has developed, over the years, a great public acceptance and demand for Chrysler Airtemp products.
10. Chrysler Airtemp cooperative advertising plans and sales campaigns provide real, hard-hitting dealer helps at the local level.

● Smart dealers buy merchandise with both eyes on sales and profits. Nowhere in the heating industry is there a finer opportunity for the dealer than with Chrysler Airtemp —because of a great name, backed by an engineered line of heating and cooling products, supported by strong advertising!

Heating and air conditioning go hand in hand. Air conditioning, like television, is rapidly becoming a *must* in the minds of Americans. Chrysler Airtemp products open up a triple market for you — residential, commercial and industrial. They are designed to meet the temperature control needs of all three.

Check the 10 Point Dealer Plan carefully. Each point is a valuable feature in building a big, profitable business volume. Get the *whole story* on how you can earn more with Chrysler Airtemp! Mail coupon!

FOR YOUR CONVENIENCE

F&OH-2-52

Airtemp Division, Chrysler Corporation
Dayton 1, Ohio

Send immediately full details about Chrysler Airtemp's dealer arrangements, without obligation.

Name_____

Address_____ Phone_____

City_____ Zone____ State_____

Chrysler Airtemp

CHRYSLER AIRTEMP

AIR CONDITIONING • HEATING • COMMERCIAL REFRIGERATION

Airtemp Division of Chrysler Corporation, Dayton 1, Ohio

WATER HEATING ITEM: In the January issue of FUELOIL & OIL HEAT appears a table showing how oilheated homes get their domestic hot water supply. The table shows detail of various sections of the country but for all sections this was the finding: summer-winter hook-ups 36%; separate water heaters with No. 2 oil 6%; separate water heaters with No. 1 oil or kerosene 4%; domestic hot water supply from other fuels 54%. When the table was made up it was recognized that one item had been overlooked, the number of homes that heat their domestic water through an attachment to the boiler or furnace during the heating season only and then use some other fuel during the summer. The experience of the monthly reporting group indicates that 14% of all oilheating users handle hot water in this way. Thus, the 14% should be deducted from the 54% that we had mentioned as heating water with other fuels, leaving that figure corrected to 40%.

By sections of the country families heating water with an oil hook-up in the winter and another fuel in the summer are: New England 14%; Mid-Atlantic 16%; Midwest 17%, Pacific Northwest 10%.

NERVOUS OIL CUSTOMERS: One of the reporting group asked how fueloil distributors handle the nervous oil customer who lacks confidence in automatic delivery systems and insists on phoning when the tank is getting low. Among all reporting companies it appears that about 1 customer in 10 suffers from this special style of neurosis at some time during the winter. The question then is naturally how to handle such customers. Each reporting dealer told us how he does it and the answers fall into three or four general patterns. Naturally the largest number patiently explains how a degree day system works and does everything to allay the customers' fears. The second largest group delivers the oil immediately, on the premise that no one ever won an argument with a customer. In most of these instances however they take the trouble to show the customer just how many gallons were in the tank and then by applying this to the customer's record card and K factor showing how many days the supply would have lasted. He also shows the date on which the delivery would have been made if there had been no phone call. A third group of fueloil men offers a variety of miscellaneous suggestions.

Typical are these . . . Tell them that your automatic delivery records show that the tank will only take 160 gallons and then prove it by making a delivery right away . . . Explain that 200 gallons is the smallest economical drop in a 275-gallon tank, that the company loses money on smaller ones so will

(Please turn to page 142)

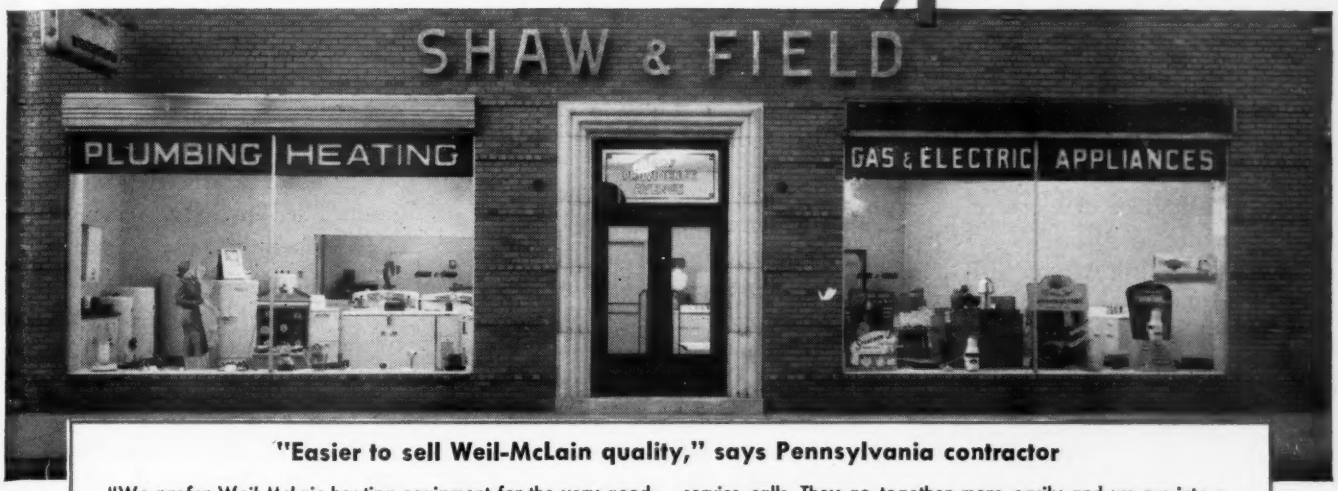
Oilburner* and Building Permits

OILBURNERS					DWELLINGS			
December		12 MONTHS			December		12 MONTHS	
1951	1950	1951	1950		1951	1950	1951	1950
22	46	676	1094	Albany, N. Y.	..	..	..	..
168	196	3312	4875	Baltimore, Md.	526	474	5112	2661
..	..	..	..	Binghamton, N. Y.	4	12	112	150
..	..	..	..	Bloomfield, N. J.	0	151	110	342
..	..	..	..	Boston, Mass.	26	14	423	319
72	102	1184	1398	Bridgeport, Conn.	..	..	..	..
..	..	..	..	Buffalo, N. Y.	59	14	584	650
63	5	322	34	Columbus, O.	..	..	..	..
..	..	..	..	Des Moines, Ia.	26	23	870	1638
..	290	..	2282	Detroit, Mich.	95	403	5975	11981
48	101	657	878	Elizabeth, N. J.	2	4	48	63
18	47	420	530	Freeport, N. Y.	..	..	..	..
..	..	..	..	Greenwich, Conn.	16	36	409	406
..	..	..	..	Hackensack, N. J.	..	22	..	208
150	129	1915	1535	Hartford, Conn.	..	..	..	..
..	..	..	..	Hudson County, N. J.	..	..	..	..
11	9	418	552	Irvington, N. J.	8	4	60	51
..	..	..	..	Lynn, Mass.	19	5	157	171
61	28	374	565	Meriden, Conn.	..	..	..	..
164	120	1247	3033	Milwaukee, Wisc.	126	172	3056	3611
..	81	..	1056	Minneapolis, Minn.	50	39	1386	2057
17	21	285	362	Montclair, N. J.	..	..	..	..
..	..	..	..	Morristown, N. J.	1	41	27	68
22	20	321	503	Mt. Vernon, N. Y.	..	..	..	..
78	82	1938	2346	Newark, N. J.	..	..	..	..
194	51	903	947	New Bedford, Mass.	..	..	..	..
50	57	595	697	New Haven, Conn.	..	..	..	..
..	..	..	..	New Orleans, La.	..	..	..	..
..	46	..	423	New Rochelle, N. Y.	10	3	156	198
6031	2790	46993	35339	New York City (total)	..	..	..	..
5474	2096	40206	28124	Brooklyn-Queens	..	..	..	..
557	694	6787	7215	Manhattan, Bronx, Rchd	..	..	..	..
117	98	1465	1399	Norfolk, Va.	103	62	997	1359
..	..	..	..	Oakland, Calif.	..	..	..	..
..	87	..	1243	Omaha, Nebr.	..	27	..	1479
19	14	239	289	Orange, N. J.	0	0	33	18
8	10	247	388	Passaic, N. J.	..	..	..	..
15	29	667	1047	Paterson, N. J.	15	21	199	218
1130	965	10136	14101	Philadelphia, Pa.	..	..	..	..
..	..	..	..	Plainfield, N. J.	2	24	179	312
50	61	726	664	Portland, Me.	8	6	162	232
..	380	..	5998	Portland, Oreg.	69	107	1451	2490
15	9	270	253	Poughkeepsie, N. Y.	..	..	..	..
128	43	1081	803	Providence, R. I.	12	23	275	318
..	..	..	..	Reading, Pa.	3	7	78	79
33	46	655	1155	Richmond, Va.	23	31	595	723
22	50	701	1148	Roanoke, Va.	..	..	..	..
148	126	2883	3475	Rochester, N. Y.	..	..	..	..
17	15	274	373	Rockville Center, N. Y.	1	14	103	197
29	29	382	603	Salem, Mass.	1	0	82	79
115	29	2113	418	St. Louis, Mo.	26	23	628	969
66	89	864	2242	St. Paul, Minn.	32	31	1170	1640
53	76	644	674	Schenectady, N. Y.	..	..	..	..
..	..	..	..	Seattle, Wash.	112	133	1847	2761
..	..	..	..	Springfield, Mass.	26	43	877	764
42	88	608	968	Stamford, Conn.	..	..	..	..
10	..	59	..	Syracuse, N. Y.	9	26	347	591
..	..	..	..	Trenton, N. J.	1	2	68	64
..	..	..	..	Utica, N. Y.	15	1	161	175
113	108	1472	2086	Washington, D. C.	..	..	..	..
..	..	..	..	West Orange, N. J.	33	98	427	551
20	23	401	410	White Plains, N. Y.	11	30	108	239
..	78	..	1143	Wilmington. Del.	258	6	514	256
143	167	1947	3146	Worcester, Mass.	..	..	..	..
87	106	890	1074	Yonkers, N. Y.	..	..	..	..
9539	5985	90225	91404	*Totals*	1727	1932	28786	38401
+59.3		—1.3		*Percent Change*	—10.6		—25.0	

*Permits are not total sales in each market since none are reported from suburban areas, which normally account for 20% to 60% of total sales in each market; nor are they an accurate index where enforcement is lax. Rightly used, however, they are a useful working index.

WEIL-McLAIN

IT IS MORE PROFITABLE TO SELL A EXTRA VALUE



"Easier to sell Weil-McLain quality," says Pennsylvania contractor

"We prefer Weil-McLain heating equipment for the very good reason that it's easier and more profitable to sell a quality line. Weil-McLain Solray, Raydiant and Junior radiators, for example, have the graceful lines and unobtrusive beauty which appeal to both men and women—not to mention the effective way in which they provide both radiant and convected heat.

"Weil-McLain boilers can be installed with the knowledge that they will last a long time and that there will be very few service calls. They go together more easily and we run into a minimum of delays and difficulties in assembly.

"The round boilers made by Weil-McLain are easy to sell to people who wish to fire with coal but plan to switch to oil or gas later. The round boiler makes a very efficient oil-fired conversion.

"These extra values are the reasons why we concentrate on Weil-McLain."

SHAW & FIELD

SEE THE EXTRA VALUE IN WEIL-McLAIN SNUG BASEBOARDS

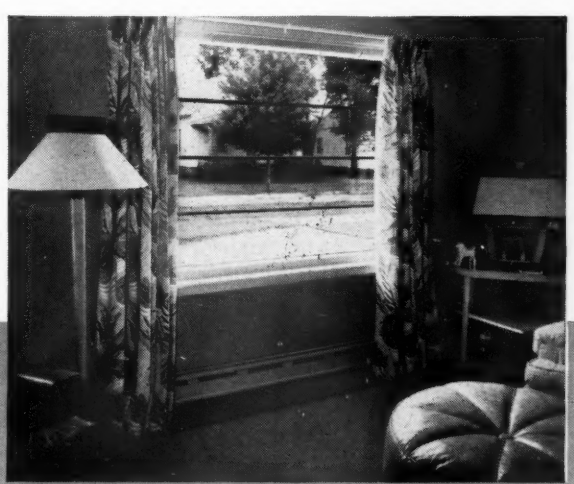
In Weil-McLain Snug Baseboards, you find an "extra value" interpretation of baseboard heating panels. Comfort, beauty, efficiency and rugged durability are all combined to provide baseboard heating at its best.

The simple, clean-cut lines of these units blend in smoothly with any style of room decoration . . . extension panels and corner covers fit neatly to effect a continuous eye-pleasing panel. Snug Baseboards are cast iron, of course, to assure the sustained heating so necessary to genuine comfort. They can be recessed in the wall if desired.

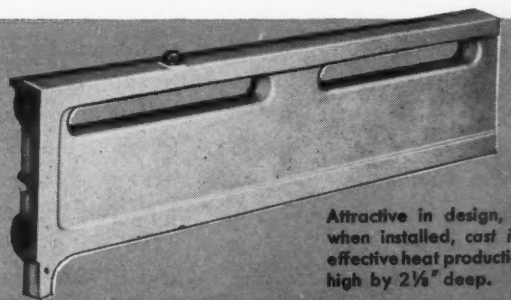
The front panel is water-backed to provide a high percentage of radiant warmth . . . finned surface behind the front delivers an ample flow of convected heat. Here is really efficient heat distribution!

As a further "extra value," an adequate supply of Air Seal (dust-stop material) is furnished with all Weil-McLain Snug Baseboards.

Send today for descriptive literature.



Weil-McLain Snug Baseboards form a continuous panel of radiant heating surface along the cold outer walls of the room.



Attractive in design, inconspicuous when installed, *cast iron* for most effective heat production. Only 7¼" high by 2⅛" deep.

WEIL-McLAIN BOILERS · RADIATORS

WEIL-McLAIN COMPANY
MICHIGAN CITY, INDIANA

fueloil & oilheat

Government Influences on Fuels

by
Milburn Petty

WASHINGTON—Office of Price Stabilization's denial of higer ceiling prices for distillate fuels on the East Coast to offset rising tanker rates dumps the supply problem into the Industry's lap.

"Means and methods" of allocating available supplies are being studied by the Petroleum Administration for Defense, if a shortage develops.

In rejecting an average of 0.5¢ increase for the North Atlantic seaboard, OPS suggested a subsidy plan. Major suppliers would be named as the government's agents to buy at the Gulf and sell at ceiling prices at delivery points, with the extra transportation costs paid by the government.

PAD agreed to study the OPS suggestion although believing it could not be put into effect soon enough to help.

PAD wired 12 major companies asking each whether it would produce or acquire for delivery into the Northeast up to 10% above its sales commitments, if the OPS would raise distillate prices an average of 0.5¢ per gallon.

Such additional supplies were to be held for assignment by PAD as needed to individual resellers.

Suppliers responded favorably to PAD's proposals—but OPS rejected it in favor of the subsidy idea.

OPS Does About-Face on Policy

In rejecting PAD's recommendation for higher ceilings on distillate, OPS Chief DiSalle went contrary to the precedent set on residual fuel prices in a similar situation last June.

Higher prices for residual were found "both necessary and warranted" because the tanker rate situation had made the existing ceilings "unrealistic," according to DiSalle's order of June 4. So, a general increase was authorized. It was based on a tanker rate of USMC plus 25%, the rate used in the voluntary military tanker pool.

This increase, DiSalle said last June, "is tentative pending the completion of studies designed to establish specific tanker rates for civilian movement as well as military movement of petroleum tanker rates."

That was nine months ago. And if OPS was making a tanker rate study then, nothing ever came of it.

Meanwhile, spot charter rates on distillate from the Gulf to Boston jumped from 1.04¢ per gallon in July to 3.13¢ by December, last year.

Residual Supply Is Problem

Meanwhile, it has become apparent that the price relief granted for residual last June was inadequate.

The supply pinch has become so acute on the East Coast that PAD is considering (a) oil-to-coal conversions for electric utilities; (b) limitation of inventories at utilities plants; and (c) recommendation of higher prices to encourage the making of more residual.

Offshore shortage of residual has been estimated at more than 100,000 B/D, due to the cut-off of Iranian supplies. And this is having its effect on the East Coast situation.

Senate Continues Fuels Study

Senator O'Mahoney of Wyoming has been given a year's extension on his investigation, looking toward the development of a "national fuels policy" by the Senate Interior Committee.

So far, the group has held only one session, a roundtable discussion last March. But it was enough to disclose that coal interests hoped to use this investigation to fasten "end use" controls on oil and gas as a national policy.

PAD Pushes Oil Expansion Plan

PAD has submitted to the Defense Production Administration a new program for expanding oil supplies and facilities in the U. S. and foreign areas. If approved, it would require nearly half again as much steel and other materials as the oil industry has been receiving. During the 18 months beginning July 1, this program seeks:

Drilling 80,000 wells in the U. S. and 10,128 in foreign areas, including Canada.

Expanding U. S. refining capacity at an annual rate of 475,000 B/D and foreign, by 384,000 B/D per year.

Building tankage to store 153,000,000 barrels more of crude and products in the U. S.; 35,000,000 barrels more abroad.

Construction of 19,700 miles of oil pipe lines in the U. S.

Gas Expansion Is Not Included

In announcing this expansion program, Deputy Petroleum Administrator Bruce K. Brown took pains to point out that it does not include anything for gas transmission lines.

All of the nearly 20,000 miles of line included are for transporting crude oil or refined products, Brown said.

This tends to confirm other indications that PAD has clamped the lid on further expansion of natural gas.

Adequate Oil Supply Is a 'Must'

Nothing has been announced—but there has been a policy decision at the topmost level in the Truman Administration that provision for an adequate oil supply—with facilities for transporting, refining and distributing it—is essential for national security.

It will take time for this policy to percolate down through the agencies—but the results should show up soon.

First positive evidence may be larger steel allocations for oil, beginning with the third quarter. This would provide for a start on the program that PAD has submitted to the DPA.

OPS Stands Pat on Navy Special

OPS Chief DiSalle has "toughened up" on price increases—even more so since he announced plans to run for the Ohio senatorial nomination.

He has resisted all pressure—even from Interior Secretary Chapman—in the Navy Special Fuel Oil price situation. He has insisted upon a $2.10 ceiling which is not enough to cover components, residual and cutter stock.

LPG Supply Troubles Are Eased

PAD reports that trouble spots in the liquefied petroleum gas picture have been eased—temporarily, anyway—by chemical plants agreeing to divert some of their propane supplies to the shortage areas. Meanwhile, there has been some talk of higher ceiling prices to encourage building of more underground storage.

fueloil & oilheat

A Woman looks at oil Heat

Some not so random Ideas on what She expects from the heating System and the Dealer

by
Charlotte Montgomery

TO THE AVERAGE WOMAN anything mechanical is at best a great mystery and at worst her natural enemy. She doesn't know how it works or why it works—and really doesn't want to know. And she doesn't see anything unreasonable in her demand that it just go on and on working—never making queer noises, giving off smells, sparks, dirt and (above all) never stopping or needing attention.

When a piece of equipment comes into her home, she mentally checks that off as one problem attended to and she hopes never to "hear from it" again—except in the comfort it brings her. She thinks of big items such as an oil-burner as a life-time purchase. Actually, down in her heart she knows that everything wears out, but she never thinks in terms such as "depreciation" or "obsolescence." She is amazed that guarantees ever run out.

Service is everything to a woman. When that inevitable day comes when something goes wrong and she has to call for help, she wants that help promptly. After all, the rugs can go unvacuumed for a few days, she can skip the washing or get along without ice—if the devices that do these things for her "act up." But heat is a creature comfort we've come to expect and demand and a woman will feel abused if she has to do without it.

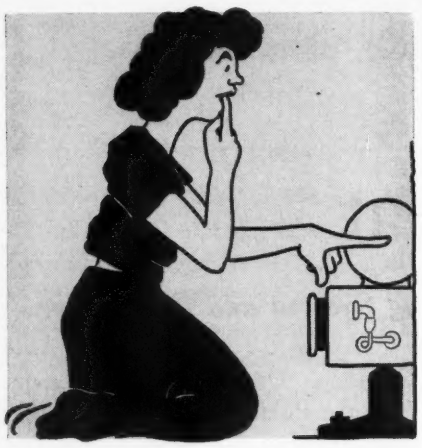
Her husband isn't much help. Since most service calls are made while he is away from the house, he leaves this up to his wife. Just as he hurries from the house he'll say, "You're here all day with nothing to do. I can't see why you can't get a man up here and find out what's wrong." So she calls your office and a girl takes down the message and says, "We'll try to get someone up there." What time? That's hard to say. So the woman is tied to the house awaiting your service man. She can't go shopping, she can't pick up the children at school—she doesn't even dare take a bath until he gets there.

Of course, in her turn she has a responsibility to stay home to let him in. But she has behind her a long history of hours and days and even weeks when she's waited for the promised visit of the plumber to check on a leak, the handy-man to build a shelf, the tinsmith to repair a gutter. What she wants from you is the promise to be there, a close estimate of the time, and a well-kept promise.

In how many homes tonight will the wife say, "Please get me a sweater, dear, I'm chilly?" Woman dress differently than men and they dress inconsistently. During the day they are busy bustling about; at the end of the day they put on a thinner dress and then spend the evening sitting still—reading, knitting, enjoying radio or television. Drafts come downstairs from the children's rooms where windows are open. The woman feels cold and wonders what's wrong with the heating system.

I believe it would be useful if, in contacts with the public, the suggestion was regularly made that the heat be turned up a degree or two just before supper. Everyone is apt to feel cooler after eating anyway because (so I'm told) their blood is busy digesting food. Another help is to install a kind of padded weather-stripping on the bottom of the bedroom doors. This will prevent drafts when a bedroom window is open.

The single greatest complaint I hear against oil heat is that it's dirty: it soils the ceilings, clings to window panes, makes dust "sticky." If, as I have been told, one important answer is twice-a-year change of air filters, then I feel this should be done automatically whenever possible and added to the current bill. Regularly new filters



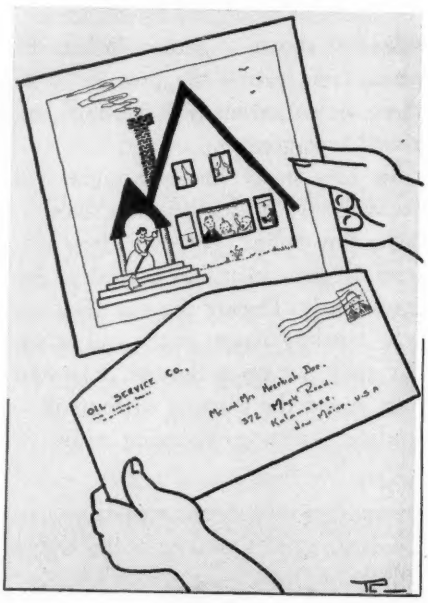
should be brought, installed and the old ones carried away. For some reason it doesn't appear to be the usual practice to take the dirty ones. The housewife has to find some way to dispose of these filthy, awkward objects. Not only does she hate the job, but she is forcefully reminded of how dirty oil heat is.

Sound, unprejudiced advice on heating systems is hard for the home-owner or home-builder to get. When we built a house a few years ago, we found the decisions on heating equipment the most difficult to make and information the hardest to get. My husband is not mechanical and said to me, "You look into it and decide." So I talked to salesmen and they talked back to me in double talk. They left piles of booklets written strictly for engineers. I answered advertisements that seemed to offer advice of a more general or helpful nature, but when the returns came in they were all in the same expert-talk. No one seemed willing to list the simple plus-and-minus score of gas versus oil; of forced hot air versus hot water.

When we settled on oilfired forced warm air, I found it hard to get advice on the size of the tank, whether to have it in the cellar or buried in the lawn, how to handle hot water heating. The final decisions were based on a kind of cross-section of opinions of friends, the contractor, the architect. I felt that none of them was based on sufficient information; certainly the salesmen were less helpful and more occupied with running down each other than in any other area we studied at that time.

On one glorious day we moved into the new house. It was fine to say goodbye to the old coal furnace with its temper tantrums whenever the wind changed. It was heaven to have hot water with no pot stove to tend. I rejoiced to see that oil truck drive up with nothing for me to do but pay the bill. I was delighted to be rid of radiators. The degree-day system was a joy and as close to the ideal of a piece of equipment taking care of itself as I had ever experienced.

Then some of the disappointments began to turn up: the system of forced hot air was noisy, the ducts acting not only as conductors of noise but, apparently, as amplifiers. Every sound the children made rose from the basement playroom to the second floor, clear as a bell. The ducts (which had taken up so much precious wall space that we had sacrificed closets to them) were right behind bookcases in two



rooms and we found they were drying out books and papers. There were drafts. The house got dirty. The humidifier turned out to be a complete farce as we live in a hard-water area and it was soon clogged up tight. The rooms over the garage were hard to heat. The cellar was peppered with heavy soot, and our big square white chimney was streaked with black.

So there began a series of adjustments, service calls and a great deal of "passing the buck." Heating men said the chimney was improperly designed and that we would never get good combustion among trees, which were the reason we had selected this lot. Levers were adjusted; heat was better. We gave up our handsome white chimney and had it painted black which we don't like, but prefer to white streaked with black. My desk was moved to a less drafty spot. We began to settle down with what we had.

Post Card

One day I opened an envelope in my mail and out fell a postal-size picture of our house. The letter with it said that the writer thought that with a house like ours we might have a heating problem and he might be able to help. I telephoned him. Before long we had added a complicated control system on top of everything else. It's a system I don't pretend to understand, but it has brought heat where heat was needed, done away with drafts and those cold moments just before heat is "called for." (The only trouble now is that if something goes wrong, I don't know whom to call because I don't know what part of the system is involved.)

From an advertising stand-point the letter that eventually sold us this control system is interesting. Actually our house is "boxy" and not the kind that's frequently hard to heat. But the personal concern displayed by the letter, and the genius-touch of sending someone a good picture of his own house, certainly was an attention-getter of the first order.

Women, especially, are attracted by anything that shows a personal interest towards them. The company that sells them oil, because of contract service and the degree-day system, may seem far away and impersonal. I believe the dealer should use an occasional mailing or bill enclosure to build personal contacts with his customers. In these he could answer some of the questions about oil heat that bother women, questions such as: Does the smell of oil in the house mean I have a leak? Is oil on the outside of my cellar tank dangerous? Why should I keep a full tank over the summer? Should my chimney be cleaned?

And when the time comes for routine work to be done, I think the woman would like to be told what should be done rather than be asked what she would like to have done.

Fueloil Truck Specialist

Decker Bros. in six Years have sold a large Number of complete delivery Units

by
Bert Dunphy

SINCE 1939 Decker Bros. have been operating a successful Dodge dealership in Hawthorne, N. J. The modern establishment at 300 Lincoln Avenue, includes a showroom, parts department, offices and spacious garage and work space.

Six years ago they began to specialize in completely equipped fueloil delivery trucks, standardizing at that time on three basic sizes. The appeal of the plan to fueloil dealers lay in the fact that they were able to purchase as a single unit a Dodge truck of the proper size for the tank it was to carry, along with an expertly engineered arrangement of pumping and metering equipment.

Not only was a single organization responsible for assembling all the proper components, but the fueloil dealer was freed from the bother of purchasing a chassis separately and then farming out to another company the job of installing the extra equipment needed to transform it into a fueloil delivery truck. In addition, the dealer is permitted to specify his own choice of meter and ticket printer and the basic plans are flexible enough so that they can be altered easily to meet special conditions.

Since 1946 they have delivered several hundred complete units over a wide area. Many of the sales were made to dealers in New Jersey and nearby New York and Pennsylvania, but a number of them have been delivered in New England. Other sales have been made to companies located as far away as the Canadian border, as far south as Virginia, as far west as Illinois.

If the dealer prefers he can pick up the truck at Hawthorne, but, even for the more distant points, Decker arranges to have one of his own men drive the truck to its destination. With the increased number of inquiries that are being received from interested dealers, it often is possible to have the driver make one or more sales contacts before he returns to the shop.

The drivers, incidentally, are well trained in the operation of the truck and all of the fueloil delivery equipment, so that they function as demonstrators, when it is necessary. It is usual for the driver to spend as much time as needed with the dealer who purchases the truck or his drivers, showing them how to operate the equipment. Frequently, he will accompany the dealer's drivers on actual deliveries until he is satisfied that they understand how it works.

Chet Decker

The smallest of the standard trucks being offered by Decker Bros. for delivery units is a 1952 2-ton Dodge Model HH, equipped with a 1300 gallon tank and all equipment, selling for $4,280. The next size has a 1600 gallon tank installed on a 2½-ton 1952 Model K chassis and is offered complete for $4,950. A 2,000 gallon model on an R-154 2¾ ton chassis is available for $5,990. The fourth is a 2400 gallon capacity unit mounted on a 1952 Model V at $6,975. Prices are less taxes.

Standard tank specifications and delivery equipment for each size consist of:

Tank of 10 gauge shell, with flanged and semi-dished heads.

14 gauge steel skirting, all welded tight.

12" x 16" oval manholes with 10" hinged self-closing doors.

Oil tight flashings, drains front and rear.

Cat walks along the full length of the tank.

Curbside cabinet for meter and hose reel, with the option to have the equipment rear-installed, if desired.

Combination stop and tail light, two marker lights on rear, with all wiring enclosed in copper tubing.

2″ piping to meter and pump.

125 ft. of 1¼″ hose for the two smaller sizes, 1½″ for the 2200 gallon unit, with nozzle.

Electric rewind hose reel, with an option of fluid drive.

2″ ticket printing meter—make selected by purchaser.

Two compartments, divided to suit customer.

There are extras, too, that purchasers may specify. These are a 2-speed rear axle, roadside cabinet, signal lights front and rear, four clearance lights, truck type grille guard, heater and defroster. For the 2200 gallon tank truck, 100% air brakes can be furnished as optional equipment.

The trucks are delivered with the tank painted any color, but this is done only when the purchaser orders it as an extra. Trade marks, company names or other identification also can be affixed.

Filling an Order

When Decker receives an order for one of these trucks, a chassis of the proper size is equipped with the specified equipment and then returned to Decker's shop for finishing touches. These include final servicing of the truck, installation of signal lights and similar equipment, as ordered, and then delivery, all of which normally consumes about three weeks from the time the order comes in. This can be, and has been, bettered in the case of an emergency or some other unusual condition.

For the trucks themselves, any Dodge dealer in the country will perform the normal services covered by the guarantee. They merely require that the truck still is within the warranty period. Charges for these services, if any are incurred, then go through the Dodge organization and eventually are billed back to Decker.

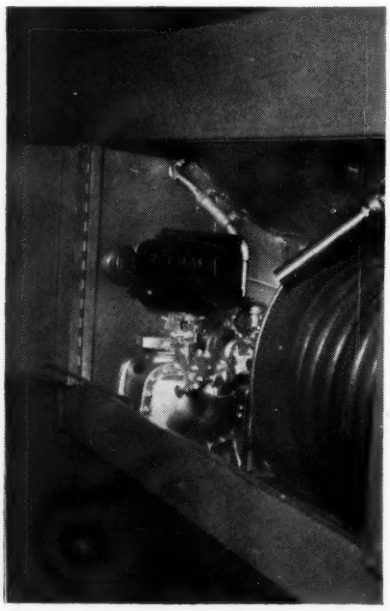
On the fuel delivery equipment and other components, Decker explains that he passes on to the purchaser the normal guarantee, which actually is a responsibility of the original manufacturer. In other words, if a piece of defective equipment is brought in to Decker, he would contact the manufacturer or his nearest office and make normal adjustments.

Service on Parts

In the same way, if a truck unit is delivered to a dealer who, because of the distance involved or some other reason, cannot get in touch with Decker to replace or repair parts covered by the guarantee, he is advised at the time the sale is made that he will receive the same attention and perhaps even quicker service if he advises the manufacturer himself or a convenient branch office.

During the six years these units have been sold and the number of them in service there certainly has been enough time elapsed for "bugs" in regards to servicing guaranteed equipment to have been discovered. The success of the plan probably can be measured by Decker's remark that during this time, "We have not had a single complaint along these lines."

The oil tanks on the trucks have a separate and comprehensive coverage. They are guaranteed unconditionally for their lifetime. The guarantee still holds not only during the time when they are used on the truck chassis furnished by Decker, but even if they are changed to another chassis.



A typical arrangement *of equipment in a curbside cabinet, showing the meter and ticket printer, as selected by the customer, the hose reel, hose and nozzle.*

The Decker organization, as a whole, is geared to render effective service to its customers. It has succeeded in working out standardized fueloil delivery trucks that a dealer can purchase with confidence, knowing that they are built with equipment of proven ability, combined into efficient units.

The Deckers are enthusiastic about the success of specialization and the possibilities for real expansion that it offers. Any such moves, though, are carefully explained as reserved for some date in the future, with emphasis, for the time being, concentrated on providing the fueloil retailer with a delivery unit, which he can select with a minimum of trouble, knowing that each size is engineered to meet specific requirements.

❖

DPA has new List of Materials, Alternates

ISSUE NO. 4 of the "List of Basic Materials and Alternates," prepared by the Defense Production Administration, may be obtained from district and regional offices of the Department of Commerce. In general, the List shows that most raw materials are at a stabilized level of supply, with copper, nickel, cobalt, tin, lead, and zinc in tighter supply and other metals still on the critical supply list, but not tightened further, despite increasing demand for defense production.

The general picture shows that steel production has reached new heights, but is threatened by a serious scrap shortage. Cold rolled steel strip is in fair-to-good supply. In the non-ferrous metal category, copper heads the list of most critical metals and little relief is expected. Tin, zinc and lead continue in critical supply.

Approximately 400 items are classified in three groups in the publication, with Group I including materials "insufficient to meet defense and civilian demands" and Group III listing materials "in fairly good supply." The list is prepared bi-monthly to serve as a guide to industry, Government and the military in purchasing materials and in using listed alternates and substitute for scarce materials.

Using the new User

A new Angle on an old prospecting Method to accumulate sales Leads

by
Dave Wepman*

THE HISTORIAN or research student of our industry who seeks to give proper credit for the original development on the invention of sales and merchandising methods always has a difficult row to hoe. However, we can say with a great deal of certainty that the man who invented the "Use the User" method of prospecting was the man who sold the first domestic oil-burner. It is virtually certain that this primitive salesman when, with a sigh of relief he folded the signed contract and put it in his pocket, said to that first owner "where can I sell another one of these things?"

Thus was the "Use the User" Plan born. During the ensuing thirty some odd years of our industry's growth, "Use the User" Plans have been developed and put into execution by the hundreds—some well organized and effective—some poorly organized, and consequently, ineffective.

This article will attempt to set forth some details on a "Use the User" Plan primarily designed to exploit the new user, although, it may be used with effectiveness on the old user as well. It is the writer's belief that too many sales organizations count on the goodwill and cooperation of only a hand full of their so-called satisfied customers to provide them with new prospects. Too often the same sales organizations wait until they are assured that the user is a thoroughly satisfied one—until all possible "wrinkles" have been taken out of the installation, and often until the user has gone through one complete winter, before they feel justified in using him as an "assistant salesman." I believe that they are passing up a major source of prospects and a major opportunity. The new user represents a unique source of prospects and the plan set forth on these pages is an organized method of working that source.

*Merchandising Manager, York-Shipley, Inc.

David Wepman

This plan is based on two well known facts about human beings. The first of these facts is "people are proud of their possessions"—while the possessions are new—and the second of these facts is that "people generally tend to congregate with other people similarly placed on the economic scale." Let's look for just a moment at the first fact.

Every purchaser of a new automobile goes around bragging about how many miles he gets per gallon, how smooth the engine runs. Every new radio owner brags endlessly about tone quality, distance and other similar radio qualities. Thus, we can expect the new owner of an automatic heating plant to brag widely to his friends about its good qualities. First of all, he has made a decision; he's confident of the rightness of that decision and he wants to justify himself to everyone he sees.

It is a safe bet that for the first 30 days after the installation of a new automatic heating plant, every visitor to our user's home is dragged willy-nilly into the basement to see this remarkable new product. Once that unit has been installed for several months, the novelty has worn off and the user grows accustomed to its operation. It is no longer a seven-day wonder and he is already not as good a salesman of our product as he was during the first 30 days.

Now let's look at the second fact—that people know people pretty much like themselves. Wherever we go we find that our close friends and associates are generally people who make as much money as we do, live in the same kind of house, maintain the same type of establishment. Perhaps each one of us knows one comparative "millionaire" and one comparative "pauper," but generally speaking, our friends live about as we do and want the same things that we want.

There, then, are our two basic facts.

1. That people are proud of new possessions.

2. That people know people like themselves.

Here are the details of a Use the User Plan based on those two facts. Let's consider it in its four actual steps.

First, as each new installation is made the retailer lists that installation (name and address in full) for inclusion in the new "Use the User" Plan.

The factory then sends to the customer a letter of congratulations on being the owner of the new heating plant and includes in that letter a folder (similar to the one pictured), which offers that owner any one of a wide choice of gifts.[1] The folder explains that these gifts are free to the customer and that all he needs to do is choose the gift of his selection and send the order form (printed on the back of the folder) to the retailer and gift will be ordered for him at once.

Obviously, a slight favor is expected of the owner in exchange for the gift. All he must do to earn it, is to write on the reply card, which is a portion of the folder, the names and addresses of five of his friends or neighbors who own their own homes and heat these homes with coal. The card explains that he will be doing these friends a great service because the dealer will then have an opportunity of acquaint-

[1] Similar folders with a complete buying plan under which the Dealer may purchase the gifts at wholesale prices, are available from such firms as Belnap and Thompson, Chicago, or Cappel-MacDonald, Dayton, Ohio, specialists in the prize and premium field.

YORK HEAT
These Gifts Are FREE To You
That's right! There's not one penny charge to you for any gift illustrated in this folder — you take your choice, fill out the order form on the back and return it to us. We will order your gift sent free of charge.
For York-Heat Owners Only
This offer is being made only to owners of York-Heat automatic heating equipment. Here's how you win your gift. Simply detach the card on the lower corner of this page. Write on that card the names and addresses of five of your friends or neighbors who own their own homes and who heat their homes with coal. Yes . . . . that's all you have to do. We'll verify the names and order the gift you select.
Do A Real Favor For Your Friends
You will be doing these friends and neighbors a great service because we will then have an opportunity of acquainting them with the "priceless quality — perfect comfort" of York-Heat.
JUST FILL IN THE POST CARD — SELECT YOUR GIFT — MAIL US THE PRIZE ORDER BLANK ON THE BACK OF THE FOLDER — WE'LL DO THE REST.
York Shipley, Inc., York, Pa.

A gift folder is sent by the manufacturer *to the newly sold customer as part of the use the new user plan. The new owner gets free any gift he wishes. In return he is asked to list the names and addresses of five of his friends or neighbors who own their own homes and heat these homes with coal.*

ing them with the qualities of his product.

No qualification is made to this gift order. The dealer does not require that the prospect must be "sold" or "closed" before the gift is mailed. He is paying not for a sale but for a prospect.

Next, when he receives the folder and the list of prospects, the dealer checks carefully to make sure that the prospects actually exist and that they own their own homes (this requires no more than a telephone call or checking in the directory) and then orders the gift promptly.

The fourth step, obviously, involves calling on the prospects and closing the sale.

The essential difference between this "Use the User" Plan and many commonly offered is that the dealer is paying not for sales but for prospects. In order to be certain that the prospects he pays for are worth the price, he has put this qualification into the program "your friends or neighbors who own their own homes and who heat with coal." Remember that the friends or neighbors of your users are very likely to be people just like your users, living in the same type of house, having approximately the same sort of income and familiar with the purchase made by the user supplying the names. We know two things then about the prospects we have received — they are "friends or neighbors" of someone who has just bought an automatic heating plant. Thus, by our second presumption, they are equally well able to afford automatic heat. But also, they still burn coal.

By the terms of our first presumption, they have already had an enthusiastic injection from the customer himself about the virtues and qualities of the plant he has just purchased. So we have an individual who owns his own home, who heats with coal, who has money enough to buy an automatic heating plant and who has had a previous selling from an enthusiastic new owner. If that isn't a prospect, then I don't know what is.

What does the plan cost?

One very successful program uses a gift order form in which the prizes have a retail value of approximately $5.00. The folder offers a choice of rain coats, costume jewelry, sweaters, nylon slips, toys, electric clocks, lamps, etc. These gifts cost the dealer approximately $3.50 each. The dealer is thus paying $3.50 for 5 hot prospects or 70 cents apiece. Do you know any dealers who would not cheerfully pay 70 cents for a hot prospect? With any kind of decent luck one out of five will develop into a sure fire sale—$3.50 per sale—little enough indeed.

Obviously, the same plan can be used for the old user, but with a comparatively smaller percentage of return. For the old user, the program simply calls for a list of the names and addresses of those users, sending out the folder and following up the leads that reply.

In this series of articles on organized selling methods we have considered (in the December issue) an organized method of exploiting the replacement market, and in this issue, a "Use the User" Campaign. This writer believes that the dealer who will use the Replacement Selling Program during the months of December, January and February, and then switch into an active "Use the User" Campaign during the spring months, will find his sales organization supplied with leads enough to bring genuinely profitable business.

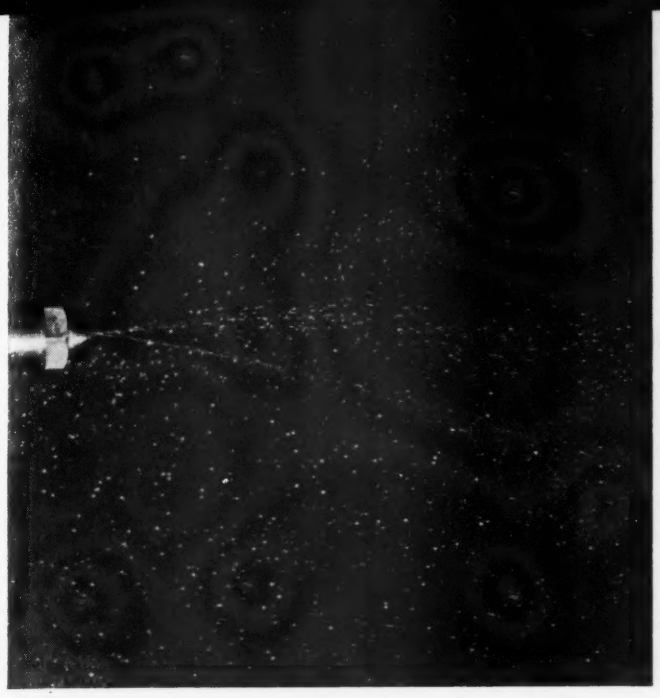


Figure 2

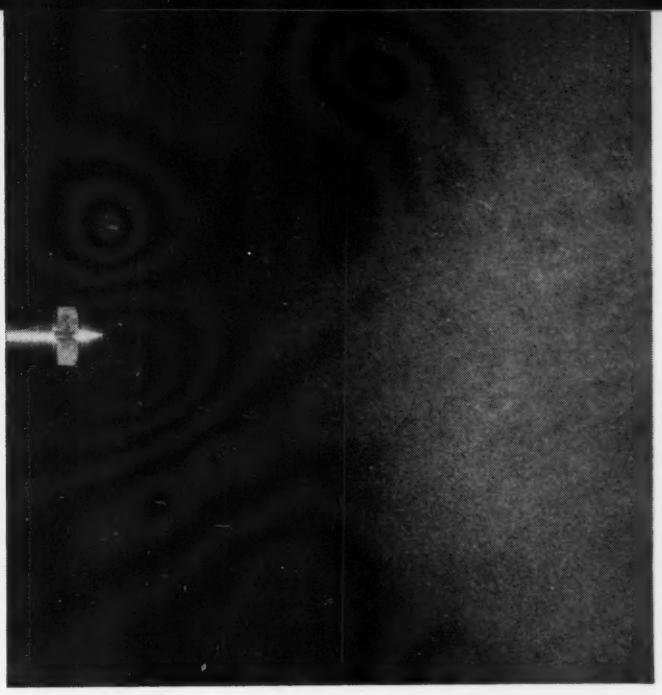


Figure 3

Cut-off Problems

Air trapped in fuel Unit or nozzle Line causes more Trouble than mechanical Failures

by

Burdette Douglass*

IMPROPER CUT-OFF is a problem that has confronted almost every serviceman sometime during his experiences—the characteristics being after flame, pulsations, and smoke. In analyzing the reasons for poor cut-off it is usually thought that the fault lies with some defect in the fuel unit. So, the unit is removed and replaced by another. Actually the trouble is very often due to incomplete purging of air from the burner and fuel unit, rather than mechanical failure. Proper adjustment can save valuable time used to install another unit, which might show the same cut-off characteristics.

A brief outline covering the operation of a fuel unit may help provide a better understanding of the steps necessary in assuring a properly operating burner. Figure 1 will be used to trace the oil from the intake line to the nozzle.

Up to the time of initially lighting the burner, the intake line to the fuel unit, the inside of the fuel unit and the nozzle line are all free of any oil. When the burner is started, the fuel unit draws oil through the intake line into the strainer chamber and passages inside the fuel unit.

After the unit becomes filled with oil and sufficient pressure builds up to open the regulating valve, the oil flows into the nozzle line. (Remember: prior to this the nozzle line was completely filled with air.) As the oil flows through the line to the nozzle, where combustion takes place, most of the air is forced out with the stream of oil. There is a small amount of air remaining in the nozzle line however, and it is this remaining air that is the most common cause for improper cut-off when the burner shuts down.

Air in the nozzle is responsible for poor cut-off because air, a gas, expands and compresses according to the pressure at which it is confined, while oil for practical purposes is not compressible. When the burner is shut down, the air-oil mixture in the nozzle line is trapped at approximately 85 psi if the burner is running at 100 psi (15 psi below operating pressure).

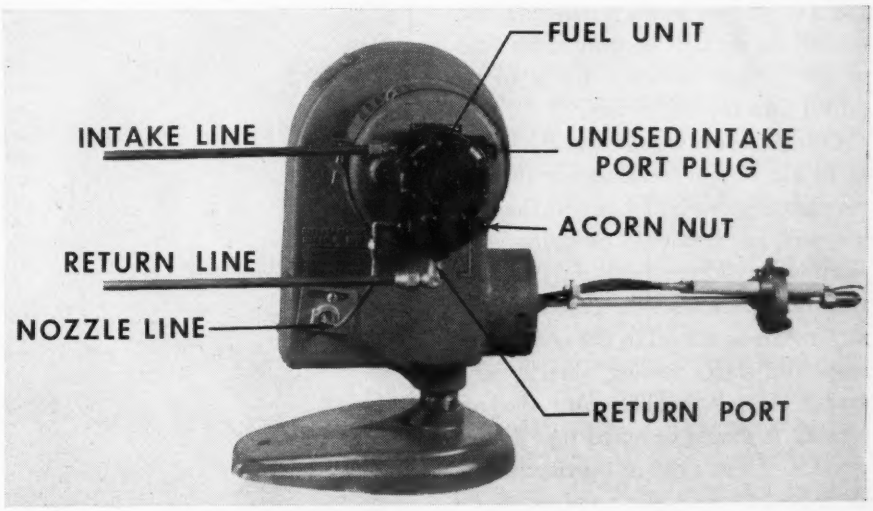


Figure 1

*Service Manager, Sundstrand Fuel Unit Div., Rockford, Illinois.

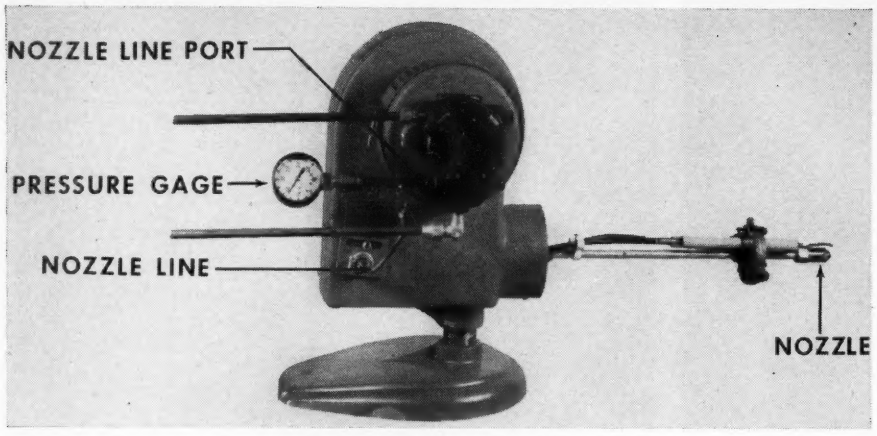


Figure 4

At shut down, this pressure drops to 0—psi because the hole in the nozzle is exposed to the atmospheric pressure in the combustion chamber. As the pressure in the nozzle line drops to 0—psi gage pressure, any air in the nozzle line will expand forcing an air-oil mixture out of the nozzle into the combustion chamber as shown in Figure 2. It is this unatomized stream of oil that causes after flame, pulsations and smoke. If there is no air in the nozzle line, the solid stream of oil in the line is unaffected by the drop to atmospheric pressure. The result is sharp clean cut-off as pictured in Figure 3.

Air must be eliminated

From the foregoing description, it can be seen that air initially in the nozzle line must be eliminated for the burner to work properly. Proper design of the nozzle line can aid this process appreciably as the air is carried out by the oil flowing through the nozzle line. The higher the velocity or speed of oil flow in the nozzle line, the sooner the air will be purged because of the greater tendency for it to be pulled into the oil stream.

On every new installation, the burner should be run continuously for approximately one-half hour so that all air will be removed. Stopping and starting the burner frequently during this time accelerates the process of removing air as the oil in the nozzle line stops and starts flowing, thereby agitating the air bubbles into the oil stream. It should be noted that longer periods of this type of operation will be required for smaller nozzle sizes.

By following these suggestions, many problems caused by air initially in the nozzle line can be solved.

However, there is a possibility that air other than that initially in the nozzle line can cause the burner to function improperly. If the fuel unit operates with a vacuum at the intake port, there is a good possibility of drawing air through the fittings in the intake line. Vacuum develops in those installations where oil is lifted vertically to the fuel unit, where intake lines are very long or too small, or a combination of these factors.

To prevent this, all threads should be sealed. Fittings on the intake line and the unused intake port plug (Figure 1) should be tightened securely. In addition to this, on single pipe systems the return port plug and the acorn nut covering the adjusting screw (with gasket in place) should be tightened securely. It should be pointed out that air can leak into the intake line through packing on shut-off valve stems.

It is recommended that a two pipe system be used where there is a lift on the intake line of the fuel unit or a vacuum of more than 2" mercury gage. An air leak on a single pipe system operating under a vacuum might cause the pump to become air bound.

Checking the fuel Unit

If poor cut-off persists even after making the suggested corrections, it is quite simple to check out the unit to see whether the cut-off seat has been damaged. Disconnect the nozzle line at the fuel unit and remove the tubing fitting. Insert a pressure gage in the nozzle port of the fuel unit as shown in Figure 4.

Start the burner and watch the pressure gage go up to the desired operating pressure (normally 100 psi gage). Then shut the burner down and observe the needle on the pressure gage. If this needle drops approximately 15 psi below operating pressure, which would normally be 85 psi, and holds at this point, the cut-off in the fuel unit is sharp and clean. If the cut-off seat in the fuel unit is defective, the pressure will drop all the way to 0—psi gage.

(*Please turn to page* 142)

QUICK CHECK CHART FOR CUT-OFF TROUBLES

Cause of Poor Cut-Off	*Adjustment*
Air initially in the nozzle line	Run burner from ½ to 1 hour stopping and starting occasionally until there is no after flame, smoke, or pulsations created in shut down.
Air leak in intake line	Tighten all fittings on intake line. Also, tighten unused intake port on fuel unit and check packing of any valves in the line to see that they are tightened securely. On a single pipe system with lift tighten return port plug and nut which covers pressure adjusting screw. Also, be sure that the gasket is under the adjusting screw nut and the nut is tightened securely.
Defective cut-off seat in fuel unit	Remove nozzle line and fitting at the nozzle port of the fuel unit. Insert a nipple and pressure gage. Start burner and observe gage reading. Shut down burner and gage will drop approximately 15 psi below the normal operating pressure of 100 psi, indicating that the cut-off seat in the fuel unit is functioning properly. If the gage continues down to 0—psi, this is an indication that the cut-off seat has been damaged and should be replaced. In this case the needle will drop slowly or rapidly dependent upon the extent of damage to the cut-off seat.

Know Your Costs

Part V—Spiralling Costs and diminishing gross Margins, percentagewise, present a Problem

by

H. H. Ragle*

IN ORDER to meet the ever increasing consumer demands, particularly over the past 30 years, the petroleum industry as a whole has set a pace of phenomenal growth.

Through capital risk and through the introduction of more and more efficient methods in geological exploration, vast new crude oil production has been developed. For each of the past nine consecutive years, new all time records in volume have been set. Last year's new high of 2,639,000,000 barrels is a 46% increase over 1941.

Daring technological research in the refining branch of the industry has brought to the consumer infinitely greater values than were available even one or two years ago. The industry continues to strive for still finer products.

The oil burner industry has also made noteworthy progress through greatly improved equipment and its application to consumer requirements.

It often has been said that the integrated companies are "volume mad and profit blind." To a very considerable extent the same criticism might be leveled at the independent distributors of both fuel oil and equipment.

In the first of this series (March, 1951) particular stress was placed upon the fact that the typical distributor often-times has not become sufficiently cost conscious.

There have been almost as many divergent opinions concerning the proper formula for the determination of real costs, as there are distributors. In keeping pace with consumer demand for new equipment and fuels, many of the more aggressive companies have reached out so ardently for volume that many basic fundamentals of costs have had little or no attention whatsoever.

In the lush days following World War II the long pent-up consumer demand was so great as to make possible all time new records in the sale of oil-burners and a corresponding increase in the sale of fuel oil for both domestic and industrial purposes.

In the wild scramble for new volume not enough premeditated thought has been given to the inevitable day of reckoning. For entirely too many years the industry seems to have been looking through rose colored glasses. The subject of costs may have been considered more or less as a reality, but at the same time a thing behind a "curtain of mystery."

Thinking through on the subject has been the exception rather than the rule. There is still an amazing percentage of the industry wholly unable to tell much more than the purely academic answer "We *made* or *lost* so much money last year."

Ignorance of Costs Appalling

How much, where, or why, is still cloaked in mystery so far as the various departmentalized activities or functions are concerned.

To common questions as simple as:

(1) What is the average installation cost of a conversion burner?

(2) What percentage of supervisory cost is charged direct to an installation?

H. H. Ragle

(3) What profit or loss do you experience in maintaining a burner service department? or,

(4) What amount or percentage of the sales price is set aside to cover the first year's warranty? The commonplace answers would be vague and spoken in perhaps a faltering sotto voice, or a blank, incredulous stare, as if to say, "I really don't know. Should I?"

Get Up and Fight!

As an industry we have been too nearly prone in the path of the ever spiralling costs of every conceivable kind and description.

We have been taking it for years "lying down," so to speak, except for more or less chronic growling at our equipment and fuel oil suppliers, the tradesmen or at labor for wanting increases from time to time to cover their increased costs.

These observations are not to be construed as critical of one's natural prerogative and vital interest in all such matters. Quite the contrary in fact.

However, each and every owner or executive sharing in the responsibilities of management should become even more keenly alerted to the importance of having a thorough knowledge of costs.

To achieve and retain a greater knowledge of costs is to consider the subject from a positive approach of careful evaluation before adoption of a policy, accepting business if questionable from a profit angle, hiring or firing an employee, purchasing new equipment, adopting new methods, and so forth.

Better by far to quickly predetermine the need and feasibility of "this" or "that" activity, than to go ahead impulsively without proper reckoning from a "cost and return" viewpoint, only to later learn at considerable expense, loss of time and operation without profit that the idea wasn't so good after all.

In other words the first effort of

*Petroleum Marketing Consultant, 162 West 54th Street, New York 19, N. Y.

management should be that of using clean cut, aggressive fast-moving preventive measures against incurrence of excessive costs, without permitting a needless stalemate in any phase of the business.

From a second angle—a knowledge of costs quite naturally implies *factual* information resulting from the keeping of written records—historical figures pertaining to the dollar *spent* and the establishment of its relationship to the dollar of *income* from the functional activities of the business.

This angle is likewise of great importance and, properly handled, an absolutely indispensable aid to management in the administrative controls over all policies, the work of personnel, and the use of equipment.

Unnecessary Systems

It is wholly unnecessary to employ costly and elaborate "split hair" cost finding systems and accounting methods. The contrary is true, for the direct gains which would accrue from the proper knowledge of costs could easily be offset by slow-moving ponderous "system set-ups."

Standardized principles of cost finding methods and formulas should be adopted by the various segments of the industry. In this way there can be presented more of a *united* front in support of a long, long past due and highly righteous demand for an early adjustment in the matter of the gross margin on fuel oil.

Only a few days ago inquiry was made in a small town drug store, if they carried a certain product. The druggist immediately replied, "No, sir. That's an item with a 25% gross margin, it costs us 31.8% gross margin to do business and break even, so why should we handle such items?

This druggist knew his costs.

The retail fuel oil distributor's costs have mounted at an alarming rate, but gross margins have *shrunk*. At the moment there is unmistakable evidence that these respective trends will continue.

The distributor is in the middle, and *very definitely so*. His retail price has been frozen under bureaucratic controls, which to date at least have not recognized the wholly inequitable and inadequate principle so long prevailing in the industry so far as gross margins are concerned.

This is a political year, a year of decision for the greatest nation on earth and its citizens as to whether we will start back toward constitutional government.

It would not be popular for any vote-seeking politician to favor a price increase on fuel oil, regardless of the fact that the distributor is taking an undeserved beating, and that the continued existence of the thousands of independent companies and the jobs of their tens of thousands of employees are at stake.

To illustrate in a practical way the rising costs and shrinking margins, some pertinent facts are cited.

The January issue of FUELOIL & OIL HEAT shows some interesting comparisons in the Index of wholesale prices:

Year	*Petroleum*	*All Commodities*
1926	*100.0%*	*100.0%*
1941	57.0	87.3
1942	59.8	98.8
1943	62.5	103.1
1944	63.9	104.0
1945	63.5	105.8
1946	67.5	121.1
1947	90.0	151.8
1948	121.1	165.1
1949	112.2	155.0
1950	113.9	161.5
1951*	120.1	180.2

*Bureau of Labor Estimates.

Despite the terrific drain on the petroleum industry throughout the World War years, the 1951 index figure stands at only 20% over the average index price of 1926, as compared with four times that rate of increase for all commodities.

But this is not all of the story, for technical advances in the science of refining have brought such an increased efficiency that two gallons of the product will do the same work which required three gallons a few short years ago.

In the New York City area, the average cost of Number 2 fuel oil to the distributor in 1951 was slightly more than double the cost in 1941, an increase of 100% plus.*

The cost of labor has more than doubled. The cost of equipment and supplies is in about the same ratio. Taxes of every kind have reached the highest levels of all time, and more tax burdens are currently threatened. The end is not yet in sight—in spite of a growing rebellion in Congress against any further increases during a year when so many of the political hucksters are determined to perpetuate themselves in power.

Total operating costs in 1951 were conservatively at least 100% higher than in 1941.

The New York City area average net retail price in 1951 was 12.3¢—an 83% increase over the average retail price of 6.7¢ prevailing in 1941.

In 1941 the gross margin was about 31.5% of the average retail selling price, whereas, in 1951 it was only 25.2% of the retail price.

Comparison between 1941 and 1951 shows that the distributor's laid in cost of oil was increased by 100%, the cost of direct operation was increased by 100%, but, the percentage of gross margin—in relation to the selling price was reduced by 20%.

Reasons for Situation

One may ask, "Why has such a situa- been permitted?"

"Why have the independent distributors—who in the aggregate certainly distribute far more fuel oil at retail than the integrated companies—submitted to a pricing policy so utterly unsound in conception and ruinously unfair in effect?"

"What can be done about it?"

No attempt will be made herein to give all the answers to these questions, nor to dwell at length upon the many angles involved in the situation. Among the reasons, however, will be found:

1. The petroleum industry—as far back as old timers can recall—has followed the principle of considering and speaking of margins strictly in terms of "cents and mills per gallon."

2. Following such a policy is fallacy, for it blindly fails to recognize the sound necessity of having margins which more directly follow percentage-wise the proportional increase in:

a. the laid in cost of merchandise,

(*Please turn to page* 139)

*E.S.P.A. Magazine, December, 1951.

Modernizing two-pipe steam Plants

Leaky Traps and Need for Orifices cause high oil Bills

by
J. W. Schulz

HEATING ENGINEERS and maintenance men concerned with the performance and efficiency of large steam heating plants are always talking about leaky traps.

"I saved 70 tons of coal a year just by replacing 70 defective trap elements in this building that now uses 200 tons of coal a year," boasts the superintendent of a large office building. "The fellow who had my job before me knew nothing about traps. Never looked for leaky traps. The eight years he ran the building, he didn't replace a single defective trap element. Actually this system remains efficient only if every year some dozen or two dozen defective traps are located and fixed."

We've been putting this question to heating men well versed in the maintenance of two-pipe steam systems: How many of the thermostatic radiator traps of a two-pipe steam heating system probably need replacement in a 15-year-old building that's never been given trap attention?

Experts, including manufacturers of traps, reply that 15 years of neglect may mean need to replace 20% to 35% of the trap elements. In a 50-family apartment house having 300 traps neglected for 15 years, 60 to 105 new trap elements may be needed to end waste of fuel and excessive fuel bills.

Leaky traps waste tremendous amounts of fuel, of course, in addition to putting a heating plant completely out of whack and causing such things as radiator knocking, complaints about cold radiators, use of excessive make-up water, and insufficient heat on coldest mornings. All these things are bad, but in the eyes of an oilheating expert, the waste of fuel is the worst.

Here's how one oilburner dealer got started giving attention to traps and orifices for two-pipe steam plants.

Almost two years ago, as we were visiting with him this dealer asked, "What about the traps at the radiators? An old customer of mine just bought an office and store building in the next town. Finding that it uses 17,000 gallons of No. 2 oil a year for heating, which certainly is high for the size of the building, he asked me to improve the oilburner and cut the oil bills. I plan to make the oilburner like new because it's only five years old, install a new firebox for top efficiency, clean the boiler thoroughly of course, and baffle the boiler flue passages. Aiming for 500° stack temperature and 12% CO_2 in place of the 820° stack temperature and 6% CO_2 the job now gives, I should be able to cut the oil bill by at least 20%, I figure.

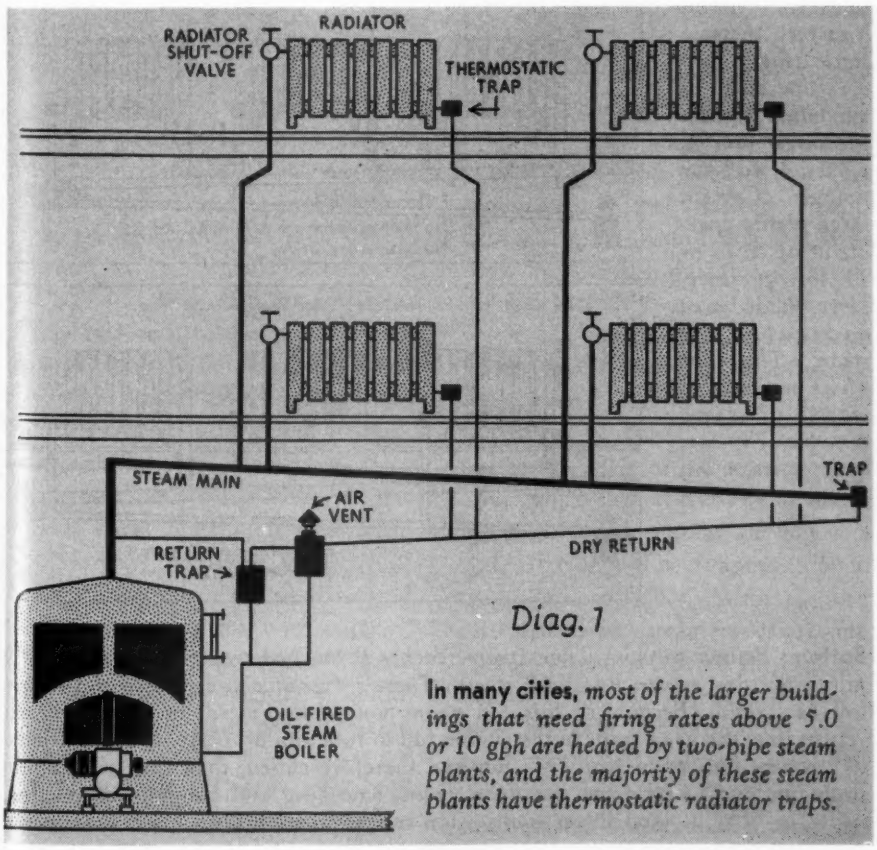
"But what about the traps? A steamfitter warns me that this heating plant, nearly 20 years old now and given no attention for years, must have in it about 50 defective, fuel-wasting radiator traps. Anything to his tip-off?"

Questionning the dealer brought out that there certainly was something to the steamfitter's tip-off, aside from the fact that by the law of averages the system no doubt had dozens of wornout thermostatic radiator traps. According to the dealer, the burner was controlled by a modern clock thermostat located in a large store that took up more than half of the first floor of the three-story building.

During the heat pick-up period each morning, many radiators pounded and knocked, others remained cold, and a blast of steam came from a vent in the boiler room as the boiler maintained four pounds pressure for an hour or two. The boiler had an old automatic feeder and low water cut-off control, which we suggested the dealer either replace or check over thoroughly in the interests of safety, and was fired by a 9.0 gph nozzle. He planned to reduce the firing rate to 8.0 gph, using the new firebox and flue baffles.

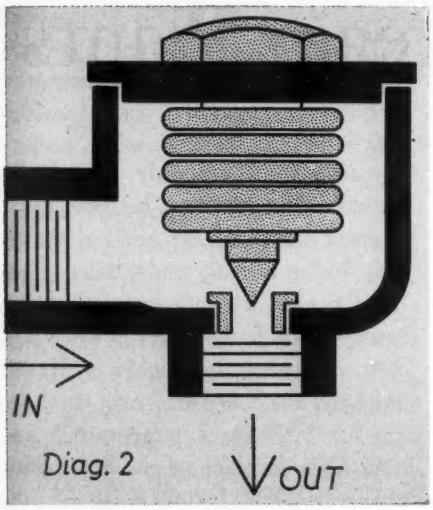
A drawing similar to Diag. 1 was used to give this dealer his first idea as to the function and importance of the radiator and steam main traps.

With the radiators in Diag. 1 stone cold and the boiler starting to produce steam, the five thermostatic traps in the drawing are cold and in their open positions. Thus to start out the cold, open traps permit air to escape



Diag. 1

In many cities, *most of the larger buildings that need firing rates above 5.0 or 10 gph are heated by two-pipe steam plants, and the majority of these steam plants have thermostatic radiator traps.*



Diag. 2

This thermostatic trap *can be considered closed when, with atmospheric pressure in the trap, the temperature of the thermostatic element exceeds 200°. With the trap cooler, its valve is open to emit air and condensate. That's a rough idea. There's more than that to the intricacies of trap operation.*

from the steam main and radiators as steam starts coming from the boiler. The system has but one air vent, located near the boiler. For a steam main or radiator to become free of air so that steam can enter it, the air must pass through the dry return line to this air vent.

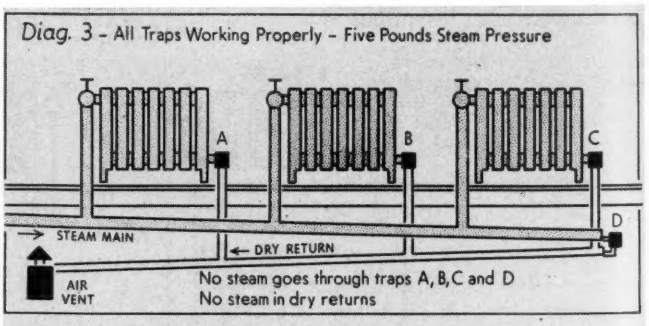
Consider five pounds pressure on the boiler in Diag. 1. The four traps at the radiators and the one trap at the end of the steam main then serve to keep steam out of the return lines. The operating characteristics of different makes and models of thermostatic traps are different, but in general and to understand the fundamentals of such traps you can consider that they are open when cooler than 200°, in a system of the type shown in Diag. 1, and closed when hotter than 200°. There's much more to trap performance than that, for the action of a trap element relates to the pressure or vacuum on it and the resultant natural temperature of the saturated steam involved, and you can obtain details through studying some of the best technical data issued by leading manufacturers of thermostatic traps.

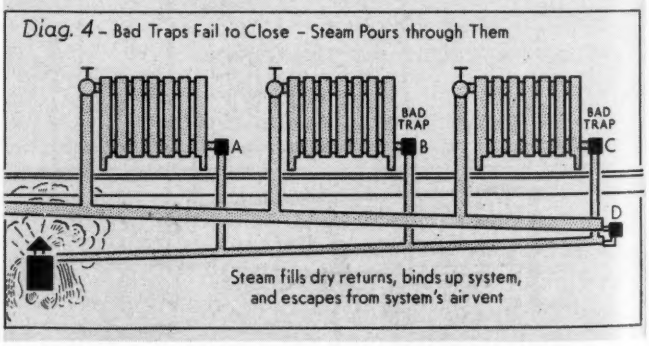
Assuming simply that the traps in Diag. 1 are open when cooler than 200° and closed otherwise, they serve for air venting a cold system starting to fill with steam, and also for permitting condensate to flow from the radiators and mains. With steam flowing into the system, a trap closes when it reaches 200° because steam approaches it. Next it fills with condensate and starts to cool. Cooling below 200°, it opens and permits the condensate to flow to the return system, then closes as hotter and hotter condensate reaches it and steam approaches it again.

With, say, five pounds pressure on the boiler and nearly that much pressure in the steam mains and radiators, the pressure in the dry return of Diag. 1 will be much lower because of the closing action of the five traps, which keeps live steam out of the dry return and its connected piping. Because of the use of a large air vent device which does not close thermostatically but remains open at all times, the pressure in the dry return line may be zero pounds gage pressure for all practical purposes. Consequently condensate does not simply flow by gravity from the dry returns (under practically zero pounds pressure) to the boiler (under five pounds gage pressure). A return trap designed for this, a vacuum type condensate pump, or a simple non-vacuum type condensate pump may be used to put the returning condensate under sufficient pressure to feed it to the boiler. Diag. 1 is entirely schematic and does not show proper piping details of such things as the air vent, return trap, or trap at the end of the steam main. The different makes and models of such specialties are considerably different in their designs and installation details.

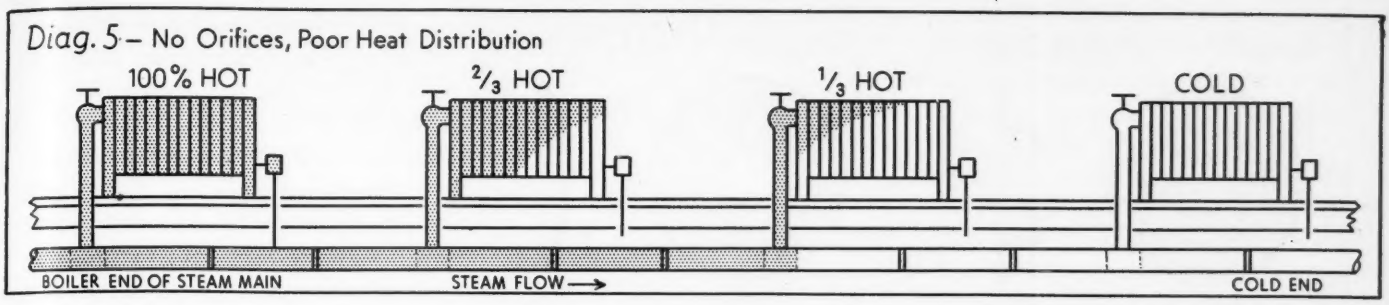
Diag. 2 gives an idea of the design of a thermostatic trap, again without showing a particular make and model. The thermostatic disc or bellows responsible for the action in such a valve may be considered filled or partly filled with volatile fluid which, when heated to 200° while there is approximately atmospheric pressure on the valve, will cause the cone-shaped valve pin to move downwards and close against its valve seat. Quick, easy replacement of dead thermostatic elements is a feature of many radiator traps. The valve seats of certain models can be screwed out, facilitating replacement. Modernization units for old traps are featured

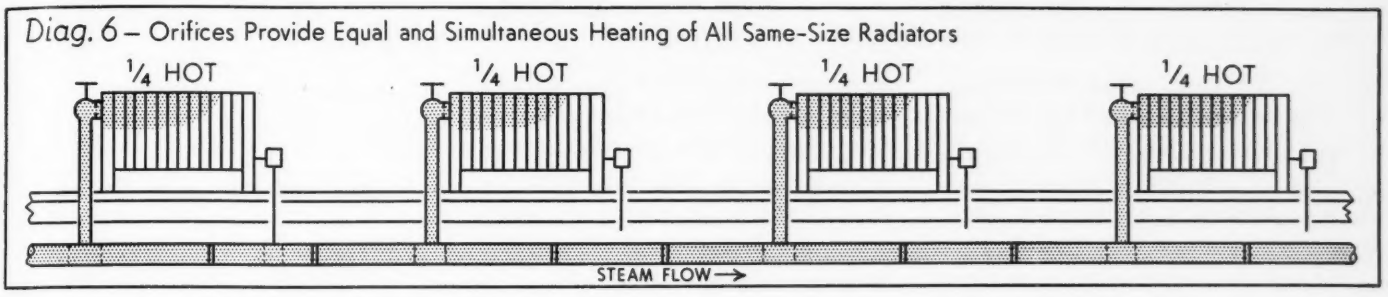
Top: *Two-pipe steam systems having thermostatic traps often are operated at maximum steam pressures from ¼ pound to five pounds. Certain large plants operate at up to 12 or 15 lbs. pressure. Here, shaded area indicates live steam. The four thermostatic traps, closing properly, are keeping steam out of the dry return line.*




Diag. 4 - Bad Traps Fail to Close - Steam Pours through Them
A
BAD TRAP
B
BAD TRAP
C
D
Steam fills dry returns, binds up system, and escapes from system's air vent

Bottom: *Failing to close when steam reaches them, bad traps "B" and "C" are filling the dry return line with steam. There's excessive pressure in the return line as a result. Because of this and steam flowing backwards to them from the return line, the good traps in the system fail to function properly. If a steam-filled dry return line keeps trap "D" hot and therefore closed, then this trap cannot drain air and water from the steam main. Knocking and banging of radiators and steam mains often results from all this.*





Top: *Here's what happens without orifices when four same-size radiators, located far from each other along a steam main, start receiving steam after the oilburner comes on. Using the short oilburner "on" periods that give smoothest heating and greatest comfort, the burner may stop when a radiator near the boiler is overheated, but farthest radiators have received little or no steam.*

Bottom: *Doing a good job of installing orifice plates in the unions of the radiator feed valves give correct distribution of heat, like this, even with on-off firing. Every radiator heats properly and proportionately with a burner "on" for seven minutes, "off" for 20 minutes.*

by certain trap manufacturers. For the oilburner dealer just becoming interested in traps because he knows that on many jobs providing proper oil-heating depends on solving trap difficulties, there's indeed much to learn about traps from the leading manufacturers of specialties for modern two-pipe steam heating plants!

Diag. 3 emphasizes that with all the traps in a two-pipe steam heating system working properly there's no steam in the dry return system, and no blow of steam from the air vent of the system.

Diag. 4 shows what happens with a few bad trap elements. Failing to close when steam flows through them, traps "B" and "C" cause the dry return line to be filled with steam. In cases of extreme trouble, steam blasts from the system's air vent when a few pounds steam pressure is maintained at the boiler, resulting in waste of costly steam and in the need to feed the boiler excessive make-up water.

These difficulties are caused in many large steam heating plants by failure of traps to close when steam reaches them:

1. Great amounts of steam, and in aggravated cases even condensate, escape from the air vents which serve the radiation system.

2. The waste of steam increases the load on the boilers and of course wastes great amounts of fuel. Fuel consumption runs high, and the only way to minimize it is to give proper attention to the faulty traps.

3. The systems bind up because of the live steam in their returns, and often higher and higher steam pressure is used in attempts to offset this. This binding up relates to steam flowing backwards into a trap that should be open because the radiation or steam main it serves contains air or cool water. For example in Diag. 4, steam flows into the dry return line through faulty traps "B" and "C," then flows backwards into traps "A" and "D" and causes these two traps to remain closed even though the left-hand radiator and the steam main contain air and cool water that should be escaping through traps "A" and "D." With the dry return filled with steam under pressure because steam is flowing through defective traps, the dry return cannot serve properly for those traps which are in good working order. Cold radiation, water-binding and air-binding of steam mains and radiation, and destructive hammering and pounding can result from this.

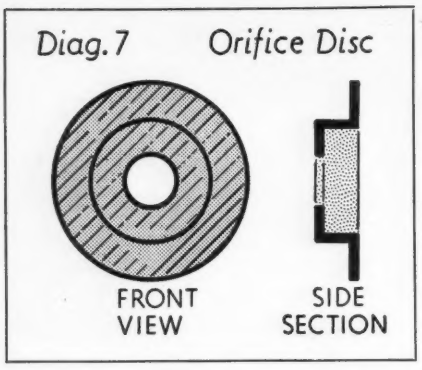
4. The condensate supposed to return to the boilers gives trouble because it is at steaming temperatures and is mixed with steam. Pumps supposed to handle condensate give trouble, for example, when the condensate is steaming hot instead of being properly cooler.

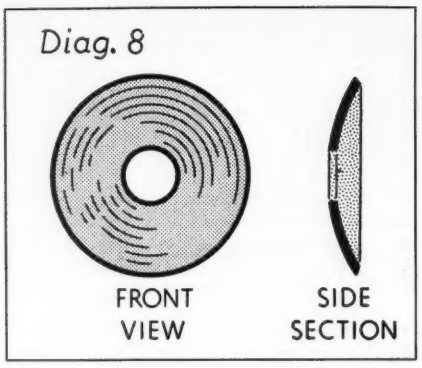
5. Boilers may be damaged because tremendous amounts of make-up water are fed to them to offset the loss of steam from the air vents of the system.

Regarding the last point, the escape of great amounts of steam into certain boiler rooms, from air vents serving the dry returns, may not be noticed. Providing sufficient air for the oilburners in these boiler rooms ventilates them greatly, in effect, and tends to kill the signs of the escaping steam. To guard against being misled by this and other things, I use two devices.

First, install thermometers to indicate the temperature of the condensate returning to the boiler room and of the condensate receivers in the system.

Second, install a water meter in the cold water line used to provide make-up water for a boiler, and find out how much make-up water is used a





week. This works out particularly well where automatic water feeders are used and therefore boilers may be taking great amounts of make-up water every day without anyone's being aware of this.

Diag. 5 is supposed to show four radiators far from each other but connected to the same steam main, and to indicate the manner in which these radiators may heat when, using modern controls for a large building, the burner runs for about ten minutes after being idle sufficiently long on a mildly cold day to let the radiators chill.

Equalizing steam Distribution

Fundamentally, steam piping is laid out so that with continuous steam pressure on such a system as is shown in Diag. 1, every radiator will receive sufficient steam to produce its maximum or proper output. Steam piping of such systems is not laid out to cause radiators to heat simultaneously when bursts of steam periodically come from a boiler fired on-off fashion by an automatic oilburner. Ordinarily, giving steam to a cold system causes the radiators nearest the boiler to heat first. On-off firing can mean stopping the generating of the steam when nearest radiators are overheating their rooms, and farthest radiators are underheating their rooms or providing no heat. The shorter the oilburner "on" periods, the greater is the difficulty in distributing steam to a system which performs in the fashion of Diag. 5. And to arrange for the very short "on" periods that give maximum comfort is the modern motif in arranging and adjusting temperature controls for all sizes of buildings!

The way out of this difficulty, which must be used to obtain excellent results from many already-installed two-pipe steam plants, is shown in Diag. 6. Here every radiator feed valve union has been equipped with an orifice disc or regulating plate of the type shown in Diags. 7 and 8. The size of the orifice used for a particular radiator depends upon these conditions:

Size of the Orifice

1. The capacity of the radiator. If producing steam for 15 minutes causes a 100 sq. ft. radiator to become 50% heated, in general it should cause a 50 sq. ft. or 15 sq. ft. radiator to become half heated. With bursts of steam coming from the boiler as the result of firing an oilburner seven minutes and keeping it idle 20 minutes, for example, every size radiator should in general heat proportionately. If the largest radiators give 25% of their maximum heat output on a mildly cold day, so should the smallest radiators.

2. Offsetting the pressure drop in the steam and return pipes, partly responsible for the trouble shown in Diag. 5, by using in general somewhat smaller orifices (for same-size radiators) near the boiler, and larger orifices for radiators far from the boiler. Proper orificing causes all radiators to provide proper heating in all kinds of weather, whether the radiators are close to or far from the boiler or the source of the steam.

3. The need to overwork or underwork a particular radiator, which compared to the other radiators in the system is undersize or oversize for the actual heat losses of the room it heats. By switching orifice sizes quickly and easily, you can increase or decrease the temperature of any room to suit the occupants or the owner of the building. You can, that is, if the radiators are not entirely too small for the heat losses they are supposed to offset!

In most buildings, orifices are easily, quickly, and inexpensively installed. In one working day, two men have installed orifice plates in every radiator of a building that used more than 13,000 gallons of oil a year. True, there are headaches to boxed-in and concealed radiation. Where radiators are difficult to get at and need vacuum cleaning besides, you may have to charge one hour's time for two men to getting at every radiator and giving it the cleaning it needs. Don't charge that up to orificing the job!

Ending radiator trap Trouble

Here's how installing an orifice disc for every radiator sometimes ends all problems of having to locate and replace leaking radiator traps periodically. Encountering one of the many buildings which have radiators oversize for the heat losses of the rooms, you can end radiator trap trouble once and for all time by using the device of installing undersize orifices. Apply to a 100 sq. ft. radiator, for example, a size orifice that with say one pound pressure on the boiler emits only enough steam for a 75 sq. ft. radiator. This keeps the radiator trap cooler than steam temperature. The trap temperature may reach only 180°, for example, when maximum steam pressure is maintained. Thus it prevents live steam from flowing through the radiator into the return system, and ends the need for using a thermostatic trap at the radiator.

Working along these lines often produces smooth heating and extreme comfort not found before in the building, for it ends the bumpy heating that generally results from oversize steam radiation. If you use this idea, reduce the gph firing rate of the oilburner so that it matches the reduced load on the boiler. Keep the burner running many hours on coldest mornings by using the lowest feasible firing rate. This in itself saves considerable oil.

Note: Another article on two-pipe steam heating plants will appear in a future issue of FUELOIL & OIL HEAT *and will cover locating and replacing defective traps and usual and unusual remedies for trouble in large steam heating systems.*

Milwaukee River "laundered" to emulsify fueloil Slick

IN WHAT was probably the largest "laundering" job ever undertaken, the Milwaukee River recently was thoroughly "sudsed" with Soapthetic, a combination of soap and synthetic detergent, to emulsify a huge oil slick that was a fire hazard.

It all started on October 11, when a building supply truck backed into a 90,000 gal. storage tank at the Schroeder Oil Co. Of the 80,000 gallons that escaped, about 20,000 were salvaged and pumped into tank trucks, but the remaining 60,000 gallons were flushed down storm sewers by Milwaukee firemen into nearby Lincoln Creek and the Milwaukee River.

Great slicks of fueloil formed on the creek and above the first Milwaukee River dam at Capitol Drive. Residents along the creek and river were cautioned about the danger of fire, but some residents missed the warning and on October 14 one of them burned paper in a washtub near the Lincoln Creek bank. A high wind carried a blazing scrap into the creek, onto the oil slick. Within minutes one of Milwaukee's most spectacular fires was blazing down the creek.

Tons of "foamite" finally brought the blaze under control, but not before damage estimated at $50,000 was caused. Fortunately, damage to homes was restricted to soot and smoke contamination, but this was extensive.

Thirty thousand gallons of fueloil still floating on the Milwaukee River remained a nightmare to residents and public officials and methods of removing it were studied. To flush it down the river into Lake Michigan by opening dams and hosing the stream would merely transfer the danger to other parts and would run the risk of coating river banks, pilings and buildings with inflammable oil.

Cyril F. Ekkebus, director of operations for Essential Chemicals Co., Milwaukee soap and chemical makers, got the germ of an idea when he remembered laboratory tests with a special Soapthetic the company developed for use in automatic home washers. The tests showed quick dispersion and suspension of oils, so why, reasoned Mr. Ekkebus, wouldn't this be possible in huge amounts in the River?

He notified J. H. Wheeler, president of Essential, of his idea and, in turn, it was transmitted to Milwaukee Fire Chief Edward E. Wischer, who made plans for a test at upper Estabrook Dam. The Soapthetic was introduced along the banks in one of the sections of the dam which had been closed off and quickly emulsified the oil and made it water-soluble. The compound broke down the oil particles, completely covered them with a film of water, making the oil non-inflammable and easy to disperse.

Several more trials persuaded the Chief to present the plan to Mayor Frank P. Ziedler and by noon on October 16 a ton of Soapthetic was ordered for delivery to the Capitol Drive bridge at 2:00 o'clock. In the meantime Essential chemists had determined the proper proportions of Soapthetic to secure the best emulsification.

The first problem encountered at the bridge was the necessity to confine the large oil slick there to a restricted area so that there would be a minimum waste of the compound. The river banks at the bridge were steep and all materials had to be lowered a distance of 75 ft. Huge cranes also lowered four 60 ft. telephone poles down to the river, where wading firemen lashed them together across the river to prevent the oil from floating away during the operation.

An idea of the magnitude of the task can be gained when it is realized that oil in some pockets was as much as 4" thick and an estimated 2500 cu. ft. of oil was in this area alone. The powder was distributed by pumping water from the river through a generator, with hoses, connected to full pressure city water, used simultaneously with the pumps for securing more mechanical agitation and for recirculating the Soapthetic solution. Firemen, at the same time, swept oil slicks down into the stream where they could be picked up for recirculation with the solution.

The job was finished about 9:30 at night, after six-and-a-half hours. The river looked like a huge tubful of soap suds, with fish sticking their heads through gasping for oxygen.

Altogether about 3 tons of Soapthetic were used in the operation, with additional supplies delivered to the upper Estabrook dam and to Milwaukee fireboats to be used any place in the lower river where oil slicks or any type of oil could be located.

Soapthetic is a combination developed by Essential Chemicals, consisting of a balanced formulation of soap, synthetic detergent and emulsifying agents. Originally developed for improving the washing action of automatic home washers, Essential plans to continue experiments to perfcet its application in eliminating oil fire hazards in municipal and industrial use.

Left: *Firemen battle $50,000 fire caused by oil slicks on Milwaukee's Lincoln Creek.*

Right: *Treating remaining 4" thick oil slick on Milwaukee River with emusifier, which dissipated oil in safe "suds."*

Part of the group *at York-Heat's wholesale sales conference. The winter air conditioner was one of five units which heated the school tents.*

York-Shipley holds wholesale sales School

A NEW TECHNIQUE in sales conventions was used by York-Shipley, York, Penna., when it held a two-day sales school at York, January 15 and 16.

York-Shipley's 80-man sales force during the first day was broken up into eight groups for a half hour classroom presentation for each of 12 different subjects.

Three groups were formed the second morning and each spent 90 minutes in three product display rooms —one showing the complete parts and accessories line; a second displaying every part that goes into the manufacturing of a typical oilfired boiler unit and a third centered about a gasfired winter air conditioner. Discussions were led by the chief engineers in charge of the particular development and the instructors actually assembled units.

In the afternoon the salesman were formed into one group and a general two-hour question and answer period was held.

Classified under the heading of "The Merchandising Program of 1952" the 12 classroom topics were as follows:

1. Territorial analysis and discussion of sales' quotas.
2. Methods of franchising the dealer and advantages of using the Wholesale Salesmen's Manual.
3. The franchising campaign and the annual selling contest.
4. First quarter selling efforts.
5. Cooperative advertising.
6. The Billboard and Telephone Directory advertising programs.
7. Building high volume dealers.
8. Direct mailing to potential buyers. Means of reaching and penetrating a new market.
9. The dealer financing plan.
10. Dealer credit collections.
11. Use of sales promotional material and discussion of advertising campaigns and their integration into the overall distribution pattern.
12. Trade and consumer prices.

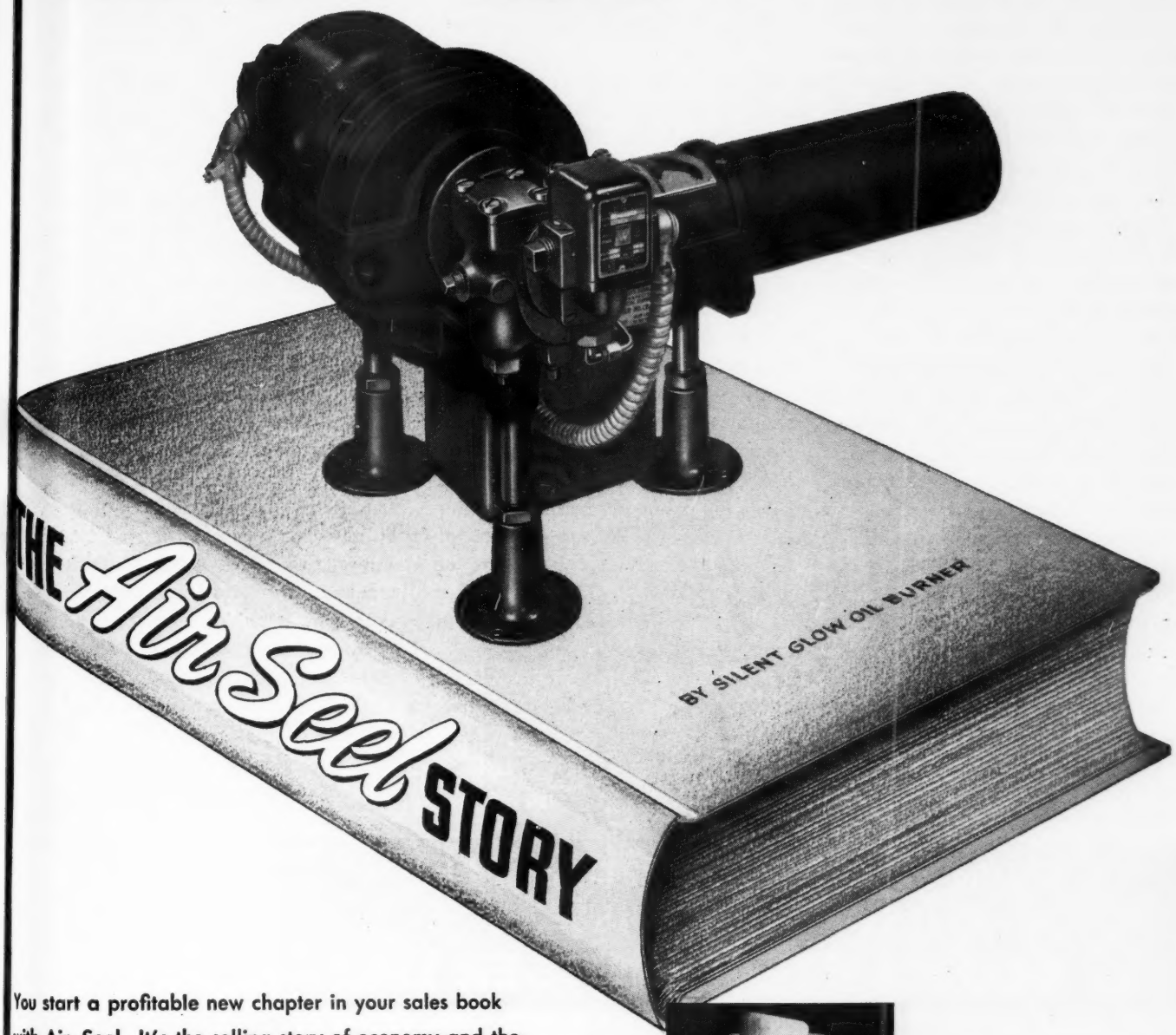
York-Shipley executives felt this small panel conference program had many advantages over the larger group method for presenting a subject clearly, particularly for factual material. Each group leader was able to develop important points and review problems not clearly understood.

C. A. Fry (*right*), *service manager, and Ed Noel, chief draftsman, demonstrate construction of a conversion oilburner.*

The second morning during the product demonstrations the salesman got a concise understanding of the product he sells. He had an opportunity to examine each component part, see its application in the whole, and discuss at length the properties and operation within the unit. And, in turn, he is better equipped to demonstrate the product to his prospect.

S. H. Shipley, *York-Shipley president, explains the two-day sales training program at the breakfast meeting which opened the conference.*

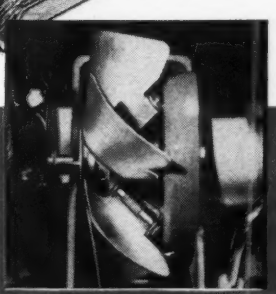
YOUR *BEST* SELLER



You start a profitable new chapter in your sales book with Air-Seel. It's the selling story of economy and the only oil burner that *conserves* the heat it makes . . . and there's no mystery about the savings customers get.

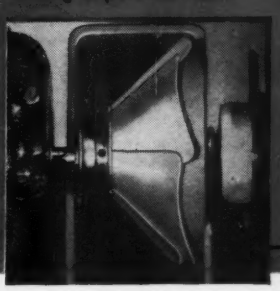
Here's how it works. When the Air-Seel stops, the blades of its unique, patented fan automatically fold flat against each other. Heat-wasting cold air — which usually rushes in through ordinary oil burners' intake to cool the heating system — is shut out by the Air-Seel fan. At the same time, valuable heat is sealed in . . . saving fuel and fuel-dollars, too. Right there you have an easy-to-tell . . . easy-to-sell sales approach, that's even easier to prove.

Let the Air-Seel oil burner show you the way to bigger sales and profits. This coupon will bring the interesting facts to help you start . . . right now.



Air-Seel Fan in "on" position. Drawing in just the right amount of air for economical operation.

Air-Seel stops . . . and fan blades fold flat, locking out heat-wasting cold air . . . sealing in paid-for heat.



Mail coupon today!

To: THE SILENT GLOW OIL BURNER CORP.

850 Windsor Street, Hartford 5, Connecticut
1500 So. Western Ave., Chicago 8, Illinois

Rush the facts on Air-Seel to me . . . today.

Name: _____

Company: _____

Street & No.: _____

City: _____ State: _____

Those Who Know Choose SILENT GLOW OIL BURNERS

Chairman of the Commercial-Industrial Burner Div., reported on a meeting of his Committee held the previous day, and listed as one project the simplification and standardization of residual fueloil, so that all geographical areas would have identical characteristics and specifications.

He announced that on February 1 the Underwriters Laboratory would mail tentative standards for oil-gas commercial burners to manufacturers making such equipment.

Harold Wilkinson, Herco Oil Burner Corp., Chairman of the Membership Committee, introduced applications for membership from:

Allied Tank & Truck and Equipment Co., Philadelphia, Pa.

Atlantic Steel Boiler Co., Inc., Philadelphia, Pa.

Bryant Heater Div., Affiliated Gas Equipment, Inc., Cleveland, Ohio.

Buckeye Furnace Pipe Co., Columbus, Ohio.

Heating & Plumbing Equipment News, New York City.

Krueger-Sentry Gauge Co., Green Bay, Wis.

Pullman Sales Co., Boston, Mass.

Manville Boiler Co., Hackettstown, N. J.

All were approved by the Board. He also announced the withdrawal of Ko-Z-Aire, Inc., of Red Oak, Iowa, due to their being taken over by Anchor Post Products of Baltimore, already a member, and moved for the election of Herbert Spott, general manager of the May Fuel Oil Corp., of Baltimore, Md., to fill the unexpired portion of the directorship of Charles R. Collins, who had represented Gerotor-May for many years on the Board. It was also announced that the membership formerly in the name of Gerotor-May, had been changed to May Fuel Oil Corp., of Baltimore, recent purchaser of the May Oil Burner Division of Gerotor-May. Dudley Robinson, of Torrington Mfg. Co., Torrington, Conn., was proposed and confirmed as a Director.

Frank Kirwan, Eureka-Williams, Chairman of the traffic committee, warned of probable increases in railroad freight rate structures in all categories, on April 1, 1952. He said the new uniform classification to be filed with ICC by the railroads on February 1 would probably ask for 40% higher LCL and 10% higher carload prices in the classes affecting oilburners and parts.

A recommendation by the Planning Committee, introduced by George Hochstein, of the Heil Co., Chairman, that a Market Research Committee be set up as a permanent OHI activity, was voted favorably, and W. J. Smith, Jr., of Cleveland Steel Products Corp., Cleveland, Ohio, was named Chairman, with other members to be announced later. Mr. Smith read to the Board his plans for securing data from various sources, including a confidential monthly questionnaire to oilburner manufacturer members, to obtain information to be collated and distributed to manufacturer members only. Mr. Hochstein suggested efforts to secure advertising and sales help material for dealers, and that some method be set-up to take advantage of the publicity on gas shortages which were favorable to oilheating.

L. A. Casler, Oil-O-Matic, Chair-

It's the *LOW DOWN* DIRT trapped by WILSON'S HAIR FILTERS that GUARANTEES LONGER LIFE

In Wilson *Hair* Filters the entire dust-holding capacity is completely utilized. This means, *no surface dust stopping only,* but Full-Depth Dust Trapping at its best . . . and many extra months of filter life.

The *reasons* are so simple:

1. The hair media in Wilson *Hair* Filters act in the same manner as Mother Nature's proven way of filtering the air you breathe. It's the *hair* that cleans the air . . . more easily, more effectively, more economically.
2. The multi-directional distribution of the hair in Wilson *Hair* Filters literally invites all dust and dirt to come in and be trapped throughout the entire filter interior.
3. Most brands of air filters require oiling on their inlet surfaces. This stops dust prematurely, loads up the incoming air side and materially shortens filter life.

Wilson Hair Filters are not oiled on the inlet side. Instead, they receive an even distribution of mineral oil *on their outlet surface,* which:

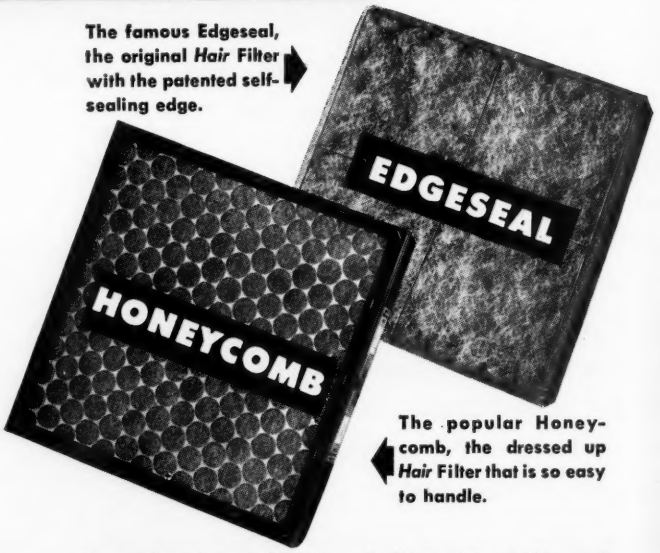
(a) augments the already amazing ability of the hair itself, to catch and hold dust, and—

(b) builds an impregnable barrier which halts dust and dirt after reaching the furthermost practicable penetration point.

WILSON & CO., INC.
(Air Filter Division) 4100 South Ashland Ave., Chicago 9, Ill.

Wilson Hair Filters are another quality product of Wilson & Co., world-famous for meat products, sports equipment, pharmaceuticals, hair products, etc.

The famous Edgeseal, the original *Hair* Filter with the patented self-sealing edge.



The popular Honeycomb, the dressed up *Hair* Filter that is so easy to handle.

Save delay. Save dollars. Save doubt. Send for FREE sample with details and prices.

MEMBER NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION INDOOR COMFORT

WILSON'S HAIR FILTER

WILSON & CO. INC.

BOOST YOUR PROFITS with units and Transformers

WEBSTER ELECTRIC is and always has been a good name in the oil burner industry. The WEBSTER ELECTRIC trademark makes these fuel-units and transformers easy to sell. Their performance and dependability please oil burner owners. Their design makes service quick and easy.

Ask your Webster Electric Authorized Service Station or heating wholesaler about the sensational new dealer package. Plan now to make this a profitable . . . a WEBSTER ELECTRIC . . . year!

Webster Electric Transformers guarantee positive ignition and long life. Interchangeable bases permit their use as replacements on nearly every make of oil burner with a minimum stock.

ELECTRIC

WISCONSIN

Old Timer Serviceman Says— "Webster Electric products are designed with me in mind. They are easy to install —and service is a cinch!"

AND FAIR DEALING AN OBLIGATION"

man of the public relations committee, reported on plans to supply dealers with material to combat gas at the retail level, and on the publicity program being planned for the Philadelphia Show.

R. S. Bohn of Preferred Utiilties, and Verne Resek of Cleaver-Brooks, reported to the Board on their findings at Washington as members of the Industry Advisory Committee to the NPA, at meetings earlier that week, and previous meetings in Washington. It was believed, they said, that a figure of from 800,000 to 850,000 for dwelling unit construction in 1952 was crystallizing in Washington, and that aluminum, steel, and copper, continued to bear the greatest restrictions, with copper being in shortest supply proportionately.

Ted Kaufman, Institute technical secretary, reported on activities of the Engineering Committee, including revising of the CS75 smoke measurement standards, a discussion of the attempt to set up radio interference standards, and work with the National Fire Prevention Association to liberalize their requirements for basement oil storage from 550 to 1100 gallons, unenclosed, and from 5,000 to 10,000 enclosed, which he said were accepted. Recommendations about the new locations of fill and vent terminals with regard to structures and walls, were turned down, and they will not be changed. He also discussed setting up new ratings for boiler-burner units, the progress of the Mechanics Training Program in co-operation with existing vocational and public schools, and by schools sponsored by chapters around the country. The Committee recommended the employment of a full-time educational director for OHI. Mr. Kaufman also listed tentative plans for the Engineering Day at the Show.

A nominating committee was appointed for 1952, with George Hochstein as Chairman, R. S. Bohn, George Wolf, Jr., Robert Gray, and Lon Casler.

F. S. Burroughs, national secretary of the Distribution Division, described the "Recruiting-Screening-Training" effort and promised a more complete program for submission to members at the annual meeting in Philadelphia. (Ed. Note: This is described in an article on page 69, January issue of FUEL-OIL & OIL HEAT.)

Paul Addams, Fitzgibbons Boiler, was appointed Chairman of the Finance Committee, pro tem, due to the resignation of C. S. Dieter. Plans were started to elect Charlie Collins an Honorary Member of the Board. Discussion of a proposed plan to change the billing for membership from a unit basis to a dollar volume basis, tabled until the next gathering, closed the meeting.

❖

Tentative Program for OHI's annual Convention

WITH SPACE for the 29th Anniversary Oil Heat Exposition, being held by Oil-Heat Institute of America, Inc., New York 16, New York, on April 14 to 18 in Philadelphia's Commercial Museum, virtually sold out, the program for the Institute's Annual Convention, to be held concurrently, is being whipped into shape.

Details on the programs for the general sessions have not been released, but it is indicated that the "Dealer

.....MONARCH.....

Have you tried THE NEW G81 COMBUSTION HEAD

- Balanced, clean and *efficient* fires from .60 to 2.00 gph.
- As easy to install as an ordinary Air Cone and Stabilizer.
- No "adjustments" to tinker with or get out of order.
- Rugged, all metal construction.
- Costs less than any other "Head."

Monarch Nozzles Best-By-Fire Test

Having Nozzle trouble? Fires crooked? Lopsided? Streaky? Smoky? Take a tip from Monarch ("R" Series solid or "NS" Hollow Sprays) and see the difference.

Circular #4150

Circular #12251

Monarch "Anti-Pulsation" Equipment

Want to cure some of those jobs that Rumble, Bump or Pulsate? You can probably do it by installing a recommended Monarch Nozzle, Cone and Stabilizer Combination.

Circular #62250

STABILIZER

AIR CONE

Write for Catalog D

MONARCH MFG. WORKS, INC.

2503 E. ONTARIO ST., PHILADELPHIA 34, PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

. . to gain

a good

reputation . .

"The way to gain a good reputation is to endeavor to be what you desire to appear."

Socrates

the standard of the industry . . .

ABC OIL BURNERS

AUTOMATIC BURNER CORPORATION

1823 Carroll Avenue • Chicago 12, Illinois

fuel oil & oil heat

Day" program for April 17 will feature panel-type speaker sections on such topics as fuel supply, gas competition and future needs of the industry.

To stimulate attendance at the Dealer Day Session, and possibly at some of the other meetings too, a plan is being worked out whereby the Institute will award up to a thousand dollars worth of "door" prizes. To qualify for prizes an individual would have to attend the session on time, since drawing stubs would be passed out only up to the time the meeting commenced. The actual drawing for prizes probably would take place at the Annual Banquet, April 17.

Social events include Technical and Accessory Division luncheons, Commercial-Industrial luncheon, the Old-Timers' Jamboree and the annual OHI banquet.

Listed below is the preliminary program, which is subject to change.

Sunday, April 13
- 2:00 p.m. Show Committee Meets at Commercial Museum.
- 3:30 p.m. D.D. Retiring Board Meeting at Benjamin Franklin Hotel.

Monday, April 14
- 8:15 a.m.-9:15 a.m. Executive Committee Breakfast.
- 9:30 a.m.-12:00 Noon. Technical Division Meeting.
- 10:00 a.m.-12:00 Noon. Retiring OHI Board Meeting.
- 12:30 p.m.-2:00 p.m. Technical Division Luncheon.
- 2:30 p.m.-4:30 p.m. Technical Division Meeting.
- 2:30 p.m.-4:30 p.m. Accessory Division Meeting.
- 4:00 p.m.-6:00 p.m. Press Party (press only).

Tuesday, April 15 (Engineering Day)
- 8:45 a.m.-9:45 a.m. Annual D. D. Meeting.
- 10:00 a.m.-11:30 a.m. Annual OHI Meeting.
- 12:30 p.m.-4:00 p.m. New OHI Board Luncheon and Meeting.
- 1:30 p.m.-5:00 p.m. Engineering Session.
- 4:00 p.m.-5:30 p.m. New D. D. Board Meeting.
- 6:00 p.m.-9:00 p.m. D. D. Secretaries Dinner Meeting.

Wednesday, April 16 (Industry Day)
- 9:30 a.m.-12:30 p.m. Industry Session.
- 1:00 p.m.-3:00 p.m. Accessory Division Luncheon.
- 6:00 p.m.-11:00 p.m. Old Timers at LuLu Temple.

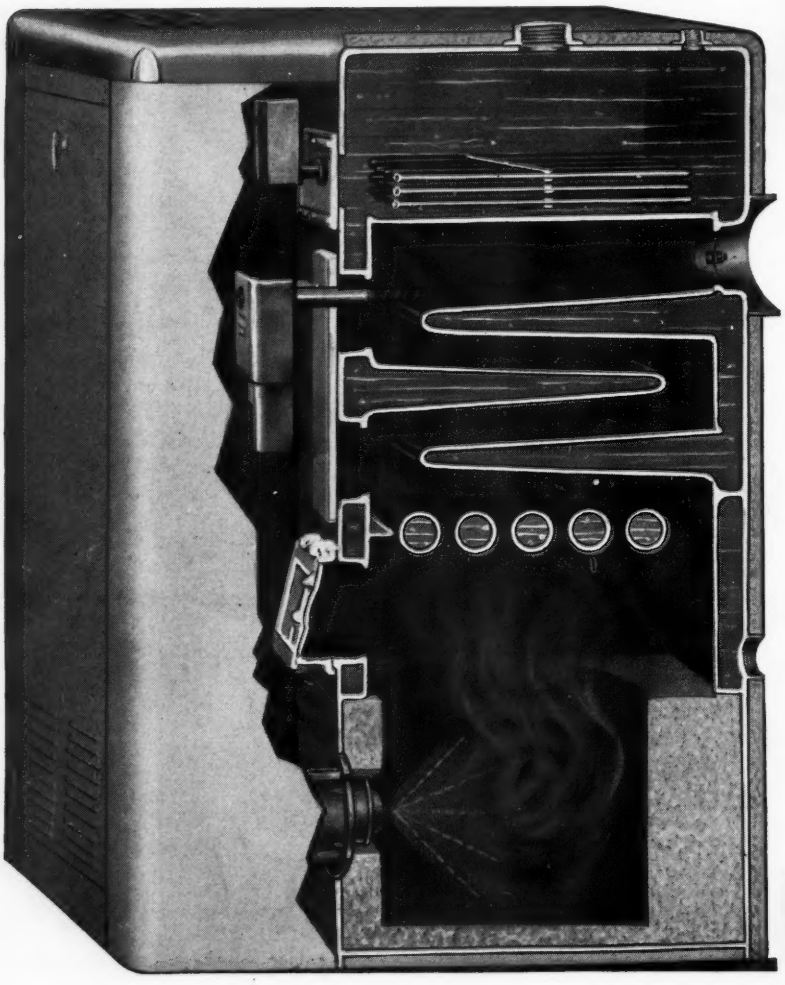
Thursday, April 17 (Dealer Day)
- 9:30 a.m.-12:30 p.m. Dealer Session.
- 6:30 p.m.-8:00 p.m. General Cocktail Hour.
- 8:30 p.m.-11:00 p.m. OHI Banquet.

Friday, April 18
- 9:30 a.m.-3:00 p.m. Commercial-Industrial Meeting and Luncheon.

French Team studies U. S. furnace Production

A TEAM, composed of thirteen representatives of management, technicians and labor, arrived on January 7 from France for a one month tour of the country. Designated the French Stove and Furnace Productivity Team and brought here under the sponsorship of the ECA, the team is to study all the factors which contribute to high productivity in the United States, with the intention that, upon their return to France, they will report on their findings and make such recommendations as can be applied to increasing productivity of their own industry.

The itinerary arranged for the team, included contact with industry, business leaders, trade and research associations serving the industry. A major portion of their time was spent in visits to manufacturing plants, including Iron Fireman, Perfection Stove, American Stove, American Furnace and Norge. The team also attended the ASHVE annual meeting in St. Louis.



Steel HEATING UNIT

5 YEAR GUARANTEE AGAINST LEAKS

Boilers and boiler-burner units engineered for dependability

"A Proven Success!"

Dealers! Write for information, data, and price sheets.

We have a few exclusive territory franchises available. Wire or write for full details.

Magic-HEAT

Licensed Under U.S. Patent

A PRODUCT OF MARIETTA METAL PRODUCTS CORP. MARIETTA, PENNA.

the Windmaster Draft Control

cuts installation time to 3 minutes!

NEVER BEFORE has a draft control offered you so many extra profit features. Simplest draft control on the market to install, the exclusive Windmaster adapter* snugly fits in as a pipe section in any flue, the patented control snaps quickly into adapter for either horizontal or vertical installation. No costly labor of cutting a circular hole in the flue pipe, no lancing and folding back.

FOOLPROOF — the Windmaster guarantees full air action. Calibrated balance* can be accurately set in 3 seconds . . . and quickly locked in place at furnace manufacturer's draft specifications.

COMPLETE RANGE OF SIZES FROM 6" to 24" are available with the Windmaster. You're sure of the proper size for each job.

SIMPLIFIED INSTRUCTIONS ARE EASY TO FOLLOW

Write today for prices and literature.

* Patent Pending

ONE TEST INSTALLATION WILL TELL — you'll be money ahead to install the new Windmaster Draft Control. It cuts installation time to 3 minutes — setting time to 3 seconds, reduces non-chargeable service calls, and increases heating efficiency.

X
W
New Heating Efficiency
You Can See and Sell!
To increase the effective area and decrease the rotative angle, the Windmaster vane is mounted on an angle. Notice the greater effective area "W" of the Windmaster in comparison with the area "X" of vertically mounted round and square vanes. Moving through a much smaller arc on stainless steel, spherically-seated bearings the Windmaster's angle mounted vane also assures more accurate responses to drafts . . . and new heating efficiency.
Windmaster
Draft Control
patented

MANUFACTURED BY

BUCKEYE FURNACE PIPE COMPANY

897 INGLESIDE • COLUMBUS 8, OHIO

fueloil & oilheat

OPS turns down higher East Coast fueloil Prices

IN THE FACE of rejection by the Office of Price Administration of its recommendation for increased distillate fueloil price ceilings on the East Coast, the Petroleum Administration for Defense on January 28 was considering a subsidy arrangement, the OPS counterproposal.

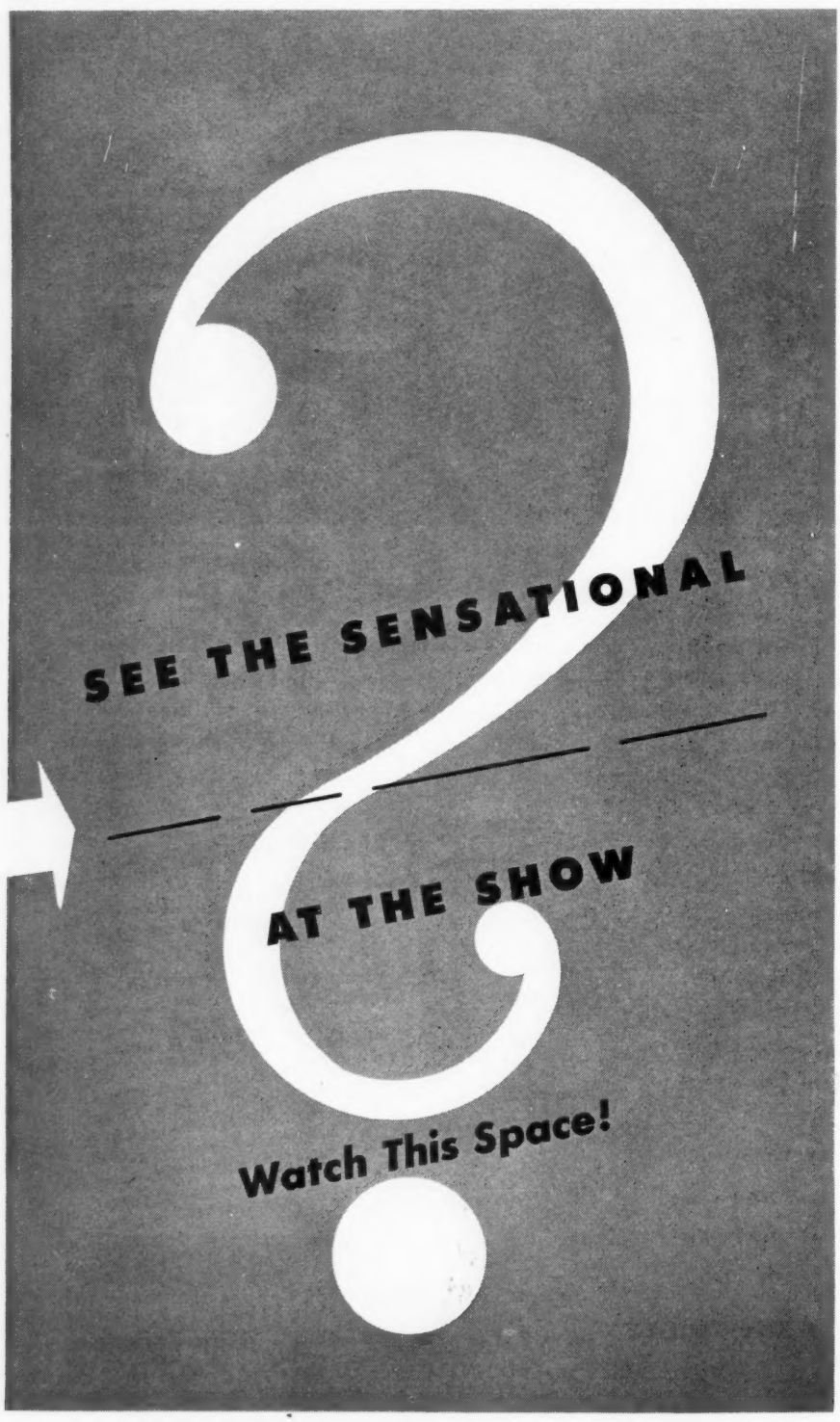
Bruce K. Brown, PAD deputy administrator, reported the situation by telegram to 12 East Coast majors. These companies previously had agreed to provide up to 10% above their own commitments for East Coast distillate fueloil if OPS raised ceiling prices. They expressed their willingness to do so to forestall anticipated shortages in the area if the weather is normal or colder in February and March.

Price Stabilizer DiSalle, whose rejection of price ceiling increases was concurred in by Economic Stabilizer Putnam and officials of the Office of Defense Mobilization, said, "This conclusion does not reflect any determination that there is no threat of shortage on the East Coast. To be sure, I am informed, that the latest report shows East Coast inventories 31.8% above those of a year ago.

"Our conclusions," he continued, "rest rather on the view that the price increase . . . is both an inefficient and costly way of solving whatever shortage problem may develop."

Instead OPS proposed and promised to back a "scheme" whereby suppliers would purchase at Gulf ceilings, move product to East Coast ports and sell at East Coast ceilings to others. The OPS rejection was made known after a conference on January 25 between OPS and PAD at the Office of Defense Mobilization, called for the purpose of clarifying the positions of the two agencies.

A hearing on East Coast fueloil supply was held on January 28 by the House Commerce Committee. See details in the "Government Influences on Fuels" page in this issue.



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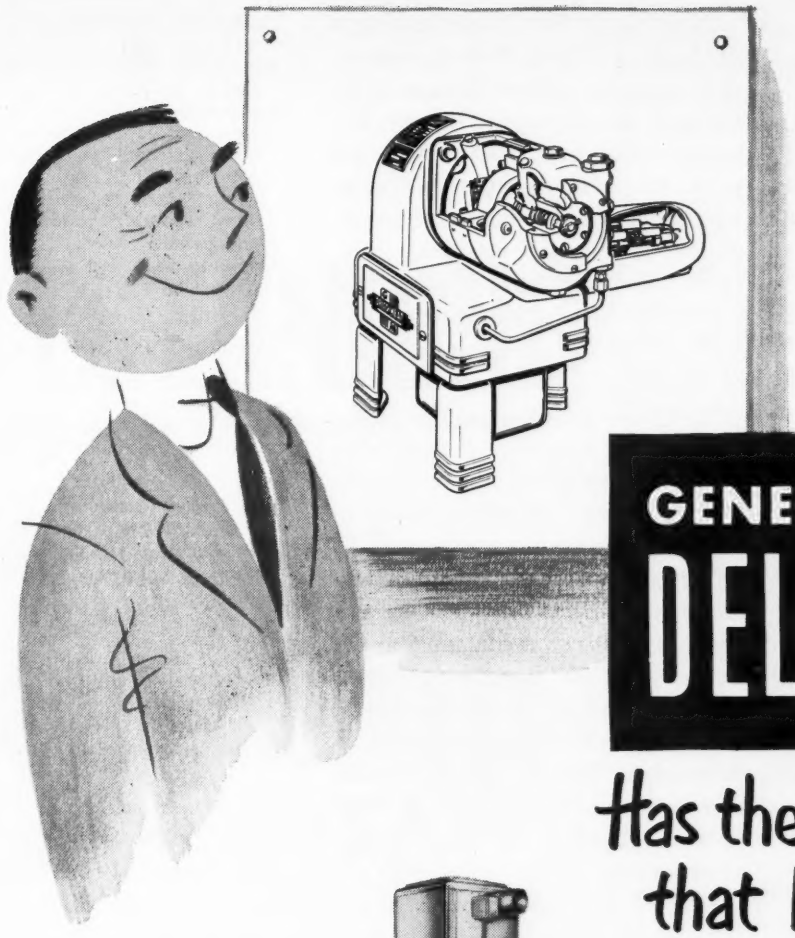
Pamphlet tells how to get small-business defense Loans

A PAMPHLET, distributed by the Small Defense Plants Administration, explains how small-business men can get Government loans under Section 714 of the Defense Production Act. Under this section SDPA is empowered to recommend to RFC, loans to small business concerns for defense and essential civilian purposes and a $100,000,000 fund is provided for this work.

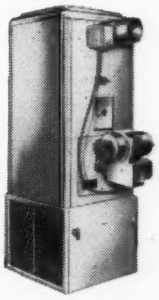
Small business loan applicants are eligible for SDPA recommendations when the applicant is a genuine small business concern, loans are for essential purposes as outlined in the pamphlet and the applicant certifies the names of attorneys or others who helped to get the loan, the fees paid them and agrees not to hire for two years any SDPA administrative officer who had discretionary power in granting assistance.

Pamphlets already have been distributed to member banks of the FDIC and to all RFC field offices. Copies can be obtained from SDPA headquarters, 1337 E St., N. W., Washington, D. C.

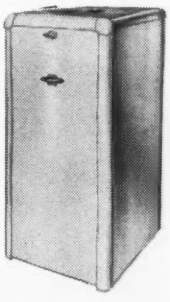


GENERAL MOTORS DELCO-HEAT

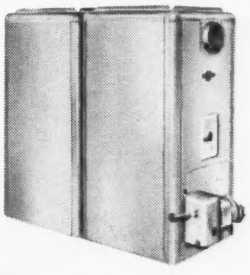
Has the selling features that help you build more sales volume!



This "OPC" Oil Conditionair is designed for utility room, alcove, closet or basement installations. Three sides of the unit are clear of flue outlet, controls, etc., for easy installation in recessed areas. Capacity 75,000 Btu output.



Vertical steel boiler for radiant heating systems —or conventional steam or hot water systems. Fired by the famous Delco-Heat series "F" pressure atomizing oil burner, the "S" Boiler is unmatched for dependable service. Net radiation —300′ steam, 480′ hot water.



"OVC "Oil-fired gravity warm air Conditionair is ideally suited to gravity heating systems in smaller homes. Has Delco-Heat vaporizing oil burner that produces a clean, economical flame. Also available with a blower-filter unit for forced warm air heating. Gravity model 60,600 Btu per hour output. Forced air models 75,000 Btu's.

Closing sales is easy with Delco-Heat equipment. For its many selling features can be demonstrated in terms of extra quality, extra value. And that's what your customers want.

For example, Delco's "PB" Burner, shown above, has the Rotopower Unit which combines the exclusive Rigidframe Motor, fan, pump, exclusive Delco-designed oil conditioner and Thin-Mix fuel control—all in a single compact sealed unit to simplify inspection or adjustment.

The "PB" also features a custom-built turbulator, and a precision machined stainless steel nozzle which delivers just the right air-oil mixture for clean, efficient and economical heat—gives your customers years of dependable, trouble-free operation.

A Delco-Heat customer is a satisfied customer . . . one who usually becomes a regular fuel oil customer, too. Thus you profit in two ways.

More and more progressive heating retailers are taking on the dependable Delco-Heat line. Get the facts about the profit possibilities of a Delco-Heat franchise in your area. Send coupon below for complete information.

CLIP AND MAIL TODAY!

DELCO APPLIANCE DIVISION
General Motors Corp., Dept. FO, Rochester 1, N.Y.
Please send me further information about:
☐ A Delco-Heat Franchise ☐ Oil-Fired Equipment

Name _____

Firm Name _____

Street _____

City _____ *Zone* ___ *State* _____

For a good deal-DEAL WITH DELCO

A complete line of oil and gas-fired equipment

fueloil & oilheat

Amendments issued to CMP Regulations

EFFECTIVE January 5 the National Production Authority issued Amendments 1 and 2 and Direction 1 to CMP Regulation 1, altering the basic rules of the Plan.

Amendment No. 1 requires a controlled materials producer to make shipment on each authorized order as close to the requested delivery date as practicable, with the proviso that he may make shipment during the 15 days prior to the requested date, but not before then. If the producer is obliged to postpone the shipment date, "he must promptly advise his customer of the approximate date when shipment can be scheduled and keep his customer advised of any changes in that date." Further, when a postponed delivery falls within a later quarter than originally indicated, the producer must ship on the basis of the original order and the customer does not have to change his allotment for the quarter during which shipment on the carry-over order is actually made.

Amendment No. 2 specifies that a producer of Class B products must receive an authorized production schedule from the appropriate Industry Division or Claimant Agency. Where a production schedule authorizes specific allotments, with no limitation on the number of units to be produced, a consumer "shall not put into production during the calendar quarter for which such schedule is authorized a quantity of controlled materials greater than the quantity allotted, unless . . . production is authorized in whatever amount can be made with a specific allotment or allotments plus controlled materials properly contained in inventory."

"Procedure for obtaining minimum quantities of materials by producers of Class B products" is contained in Direction 1 to CMP Reg. No. 1 permits self-authorization to obtain small quantities of a controlled material. A producer of any Class B product may obtain priority assistance without using Form CMP-4B if his total requirements in any calendar quarter do not exceed the indicated amounts of the following materials:

Carbon steel (including wrought iron)	5 tons
Alloy steel (except stainless steel)	½ ton
Stainless steel	none
Copper and copper-base alloy brass mill products, copper wire mill products, copper and copper-base alloy foundry products and powder	500 lbs.
Aluminum	500 lbs.

Beginning with the second calendar quarter of 1952 such producers can obtain priority assistance, without using Form CMP-4B for any calendar quarter, up to the following amounts:

Carbon steel (including wrought iron)	30 tons
Alloy steel (except stainless steel)	8 tons
Stainless steel	1,500 lbs.
Copper and copper-base alloy brass mill products, copper wire mill products, copper and copper-base alloy foundry products and powder	8,000 lbs.
Aluminum	2,000 lbs.

Producers who use this procedure are still subject to CMP regulations and orders, and shall employ self-authorization only where it will not exceed average quarterly use in 1950.

The Bethlehem Crusade-a-therm

You're SURE it's QUALITY!

You're SURE it's PROFITABLE!

Two world-famous products in one—that's the Bethlehem Crusade-a-therm. In a compact, efficient and handsome unit are the Bethlehem Boiler and the Crusader Burner, the acknowledged leaders in their fields. Crusade-a-therm replaces old-fashioned furnaces and hot water systems with a modern, low-cost, proven unit of unsurpassed efficiency. Crusade-a-therm alone has the C-liminator, the electrical delay switch that does away with oil smoke on starts. Crusade-a-therm is the answer to today's heating and hot water problems.

From the standpoint of appearance, the Bethlehem Crusade-a-therm leaves nothing to be desired. Designed to occupy a minimum of space, it will add real beauty to any basement or recreation room.

BETHLEHEM FOUNDRY & MACHINE COMPANY
BETHLEHEM, PENNSYLVANIA

A few exclusive Bethlehem Crusade-a-therm territory Franchises are still available. Wire or write immediately for full information.

OUTSTANDING

for the way they stand up on every job!

Whatever the application—
for heating equipment, blowers, or pumps—
you can depend on Delco motors
to deliver continuous trouble-free power
far longer than ordinary motors.
And there are a lot of reasons
for Delco's famous dependability.

Critical selection of materials
and careful dynamic balance—
plus special features such as
uniflow pressure-cast rotor conductors,
steel backed tin babbitt sleeve bearings,
varnish-dipped and baked motor windings—
make Delco motors the motors you want
for your product.

So, check on Delco motors now.
You'll find the motors you need,
in sizes from fractional to 100 h.p.,
in the great Delco line.
For performance data on motors
for any applications,
address Delco Products, Dayton, Ohio,
or our nearest sales office.

DELCO MOTORS

MOTORS FOR OIL BURNERS
Delco flange-mounted motors, split-phase, 50- and 60-cycle, constant speed—1/6- to 1/4-horsepower ratings.

MOTORS FOR BLOWERS
Delco resilient-mounted motors, split-phase and capacitor-start types, single- and two-speed designs—1/6- to 3/4-horsepower ratings.

THE BEST RUNNING MATE YOUR PRODUCT CAN HAVE

DELCO PRODUCTS
Division of General Motors Corporation • Dayton, Ohio

DELCO DAYTON OHIO

SALES OFFICES:
ATLANTA • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • HARTFORD • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO

Bureau of Mines reports on Synthetics from Coal

A 25-DAY TEST RUN of the new gas-synthesis demonstration plant at Louisiana, Mo., has been completed successfully, the Bureau of Mines has announced, marked by the production of gasoline, diesel oil, as well as synthesis gas. Some 52 million cubic feet of synthesis gas, requiring more than 700 tons of coke and 450 tons of 95% pure oxygen, was made and treated to yield the synthetic fuel products.

During the test run from 75% to 85% of the synthesis gas was converted to oil during a single pass. By raising the conversion to 90%, a second stage in the process would be eliminated, according to Bureau of Mines technologists. The process, also known as the Fischer-Tropsch method, has been known in Germany since 1926. The Bureau began experiments on a small scale in 1928, but did not begin intensive research until 1944. Since then synthetic liquid fuels research has brought the production of synthetic liquid fuels from oil shale and from coal by direct hydrogenation, to the point where these processes are about ready for adoption by private industry.

The plant at Louisiana, Mo., was completed in 1951, near the coal hydrogenation demonstrator that went into operation in 1949.

Committee named to watch eastern Supply

A COMMITTEE, appointed by the Petroleum Administration for Defense to assist in setting up programs for use if spot shortages of fueloil appear in the North Atlantic seaboard area, consist of L. B. Fox, Socony-Vacuum Oil Co.; J. C. Richdale, Esso Standard Oil Co.; Gordon D. Currie, White Fuel Co., and J. P. Drainie, Waller Petroleum Co.

The committee will work with Lawrence Lee, PAD's director of marketing.

U. S. Department of Labor Fueloil Prices (November)

FIELD INVESTIGATORS for the Department of Labor monthly check prices of principal fuels in several cities in each section of the country. Getting retail quotations from various suppliers in each market, the prices are averaged and published. Those in the table that follow were taken November 15 (cents per gallon):

	Range	No. 1	No. 2	No. 3
Boston	14.90	14.57	12.50	..
Manchester	15.30	14.80	13.22	..
Portland, Me	14.40	14.40	12.40	..
[3] Buffalo	14.95	..	13.74	13.74
[4] New York	..	..	12.71	..
Philadelphia	..	13.43	12.20	..
[1] Chicago	14.83	14.48	13.57	13.57
[4] Detroit	..	15.04	14.01	..
Milwaukee	..	15.04	14.10	14.00
[1] Baltimore	..	13.36	12.44	..
[1] Wash., D. C.	..	13.84	12.85	..
Jacksonville	..	14.87	13.25	..
Norfolk	..	13.60	12.20	12.20
Richmond	..	14.00	12.60	..
[2] Savannah	..	16.55	13.97	..
[5] New Orleans	..	14.33	12.77	12.77
Portland, Ore.	..	14.50	12.10	6.90
[6] San Francisco	..	13.87	11.54	6.85
[4] Seattle	..	15.33	13.20	7.11

[1] Prices include 2 percent tax.
[2] Prices include 3 per cent tax on all fuels, plus an inspection tax of one cent per gallon on kerosene only.
[3] Prices include 1 percent tax.
[4] Prices include 3 percent tax.
[5] Prices include 3 percent tax on all fuels except gas; prices for kerosene and fueloil No. 1 also include one cent per gallon State health tax, and 1/32 of one cent per gallon State inspection tax.
[6] Prices include 3.5 percent tax on all fuels except gas.

RUST clogs filter screens and burner nozzles—it's a big reason for many customer complaints and service calls. But today, Sinclair Fuel Oil contains RD-119®, Sinclair's miracle rust inhibitor. Used regularly, RD-119 stops rust—reduces your service-call expense, helps keep customers happy and satisfied. Save money, save trouble with . . .

SINCLAIR
FUEL OIL WITH RD-119®

ANTI-RUST Super Flame ®

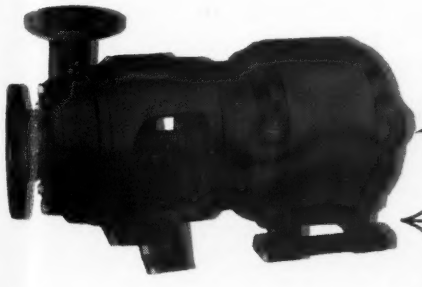
They Weren't Stubborn... They Just Didn't Believe It Was Impossible

Thank goodness there are still fellows around who aren't satisfied with just "good enough"!

Most people figured that the various types of pumps used to pump fuel oil into tanks and trucks were doing a good job. And when compared, pump for pump, this was true. But then some of the hard-to-convince engineers at I-R reasoned that if they could design a *smaller* pump that would do the same work as ordinary pumps of *higher* horsepower . . . that would really be something. Such a pump would save on first cost. It would have the operating economy of a *smaller* pump. Also, it would bring down fuel handling costs and enable fuel oil dealers to load more tanks and trucks faster . . . deliver more payloads each day.

So the "unbelieving engineers" at I-R went to work. When they told us, "Here it is," the skeptics wanted proof. They showed us improvements in design, construction and materials. What's more, they produced a line of Ingersoll-Rand MOTORPUMPS which, size for size, proved to be *more* efficient and reliable than any other type pump on the market!

The I-R MOTORPUMP has already opened the eyes of many like yourself who must speed up fuel oil handling operations at a lower cost. It's available out of warehouses across the country. And these same outlets offer service on every I-R MOTORPUMP specified or installed. Get the facts now . . . ask your nearest I-R distributor or representative about them. Meantime, write for free descriptive literature. Ingersoll-Rand Company, 11 Broadway, New York 4, New York.



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Saskatchewan Well drills 1st medium Oil in Province

THE FIRST FIND of medium oil in Saskatchewan, Can., was reported when the wildcat, Socony Western Prairie Roseray No. 1, came in. Natural Resources Minister J. H. Brockelbank described it as "very good" and said that there are definite indications it will be a commercial producer.

Oil estimated at 26 to 30 degrees gravity flowed from the wildcat. But if oil tests show 30 degrees gravity or better, it will be considered light oil.

The well was discovered near the village of Fosterton, about 35 miles northwest of Swift Current and 70 miles east of the Alberta boundary.

Amendment 2 on service Trade ceiling Prices

THE OFFICE of Price Stabilization has issued Amendment 2 to Ceiling Price Regulation 34, permitting operators of service establishments, including oil-burner service, to apply for higher ceiling prices if their earnings are at pre-Korea levels. Applications for adjustment of ceilings are to be made to local OPS offices, providing that a case can be made on the premise that ceiling prices are impairing normal pre-Korean earnings to the point where "the effective operation of the service business is threatened."

Previous to the issuance of Amendment 2 service establishments had to be in danger of going out of business before they could apply for raises in ceiling prices.

Clearing House set up for Suggestions on Production

ESTABLISHMENT in the Department of Commerce of a national clearing house for suggestions to improve industrial productivity has been announced by Secretary of Commerce Charles Sawyer. It is patterned after the War Production Board's "Brain Bank" in World War II and is designed for the pooling and interchange of ideas to benefit the nation's current defense production efforts.

The Clearing House activity is to be undertaken on a self-supporting basis and will be a voluntary effort by the nation's manufacturers. To get the Clearing House under way letters have been sent to industrial leaders seeking cooperation and asking them to designate officials in charge of forwarding beneficial suggestions.

The Department's Office of Technical Services will handle the material, digesting the suggestions in a newsletter to be circulated among interested industries.

❖

Clyde T. Moyer, Jr., is representing International Heater Co., Utica 2, N. Y., in a sales capacity in Connecticut, lower New York State and northern New Jersey, for its lines, including oil steel and cast iron furnaces, oil cast iron boilers, and conversion oilburners. Previously, Mr. Moyer was sales engineer with Baldwin Locomotive Works and assistant sales manager for William H. Harmon Corp.

In the warm-up period before the game you could never guess which is the high-scoring forward. Only when you watch them in action can you see the big difference in performance.

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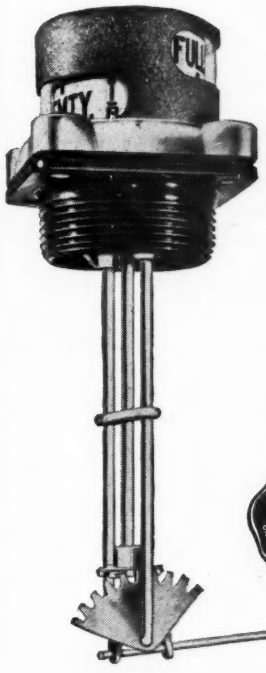

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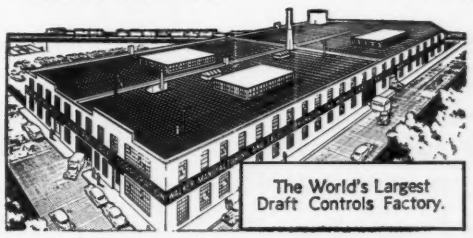
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COMMERCIAL & INDUSTRIAL oilburning

Design of the industrial Installation

Part VII—Construction of the Firebox and boiler Setting

by
Kalman Steiner*

EARLIER ARTICLES of this series have described combustion volume and combustion chamber design for various types of boilers. This article will discuss the materials and methods used for construction of the firebox and boiler setting, once the correct design has been laid out.

Unless and until a strong foundation has been laid, no setting can be expected to hold up. Three kinds of material enter into foundations: steel, common brick and concrete. The oilburner dealer usually finds the boiler setting on a boiler room floor. This floor, as a rule, consists of a flat concrete slab, with perhaps a depression under the grates to form an ashpit. The success of the entire installation depends upon the skill displayed in preparing the foundation for the firebox. A boiler set originally for handfiring of coal requires extensive alteration to its setting to adapt it to oilfiring, which changes all are reflected in the design of the combustion chamber as described in preceding articles.

Usually, the clearance from floor to crown sheet or shell must be increased considerably. This is sometimes accomplished by raising the boiler, but more often by pitting through the floor. The dealer must bear in mind that the floor supports the boiler, and much of the floor is to be removed, so he should proceed with caution.

Heating boilers usually rest on steel bases, perhaps 12 to 15 in. high, or else on a common brick curbing of equivalent height, which in turn rests on the concrete floor. The object of pitting is to provide additional combustion space, but in the interest of avoiding subsequent interference with proper combustion and good flame characteristics, much thought must be given to the foundation that will permit construction of walls and floor that will not obstruct the space needed by the flame.

Reference to the illustrations in the articles referred to will reveal that always the objective is to make the space between side walls as wide as possible. This means cutting away concrete floor right up to the area under the boiler supports. If there is reason to question the firmness of the remaining concrete, the boiler must temporarily be shored by beams while new steel or masonry supports are installed. In any case, assuming that a solid slab at least 6 in. thick remains under the boiler supports after pitting, good practice calls for underpinning with 8 in. common brick from the underside of the slab down to solid clay at the bottom level of the pit excavation. This underpinning can often be done sectionally, that is, a portion at a time, going around the circumference a few feet at a time, so that temporary shoring may not be needed.

Common red brick has better heat resistant qualities than poured concrete, concrete block or cinder block. Any masonry wall that is to serve as the exterior of a firebox should preferably be built of red brick, with cement mortar (not lime mortar) joints. Any steel in the foundation must be protected from heat, which is best accomplished by keeping the steel away from the refractory zone and leaving the outer surface exposed to air.

Floors tend to soak up firebox heat, sometimes resulting in rupture of green concrete or concrete kept moist by underground water, a circumstance that can be avoided by air cooling as much of the floor as possible and insulating the remainder.

Occasionally pitting must be done through quick sand, which is nothing more than sand that moves because of flowing water.. The sand will remain

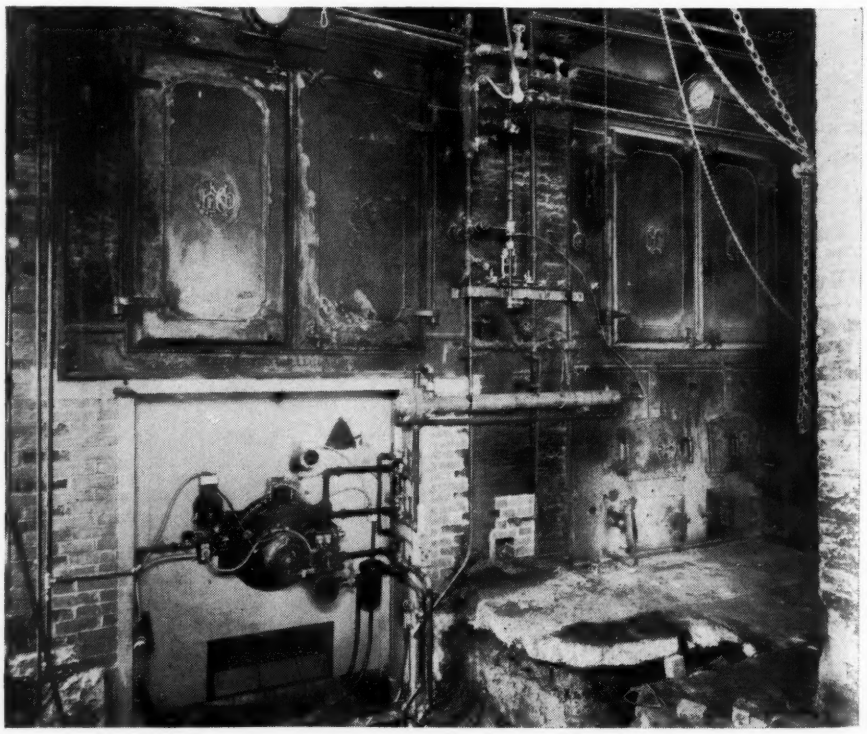

Fig. 1. *Method of pitting floor, and recessing front, in converting hrt boiler to oil firing.*

*C. Hoffberger Co., Baltimore, Md.

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quiescent and firm, and serves as an excellent foundation, if the water flow is controlled. If a hitherto unsuspected quick sand condition is revealed when beginning the pitting operations, the procedure is to sink a hole to the depth of the proposed boiler pit, at a distance of a few yards if possible or at least a few feet from the boiler foundation, and inserting a sump pump. A screen will keep sand out of the pump.

Provided only that the pump can keep ahead of the water flow, the sand will remain dry throughout the period of digging the pit and pouring walls and floor. Under these conditions some sort of waterproofing should be incorporated in the concrete. The pumping must be continued while the walls harden and set. Special Portland cements can be used, having a "high early" strength, meaning that the concrete will attain within the first twelve hours a strength reached by ordinary Portland only after many days.

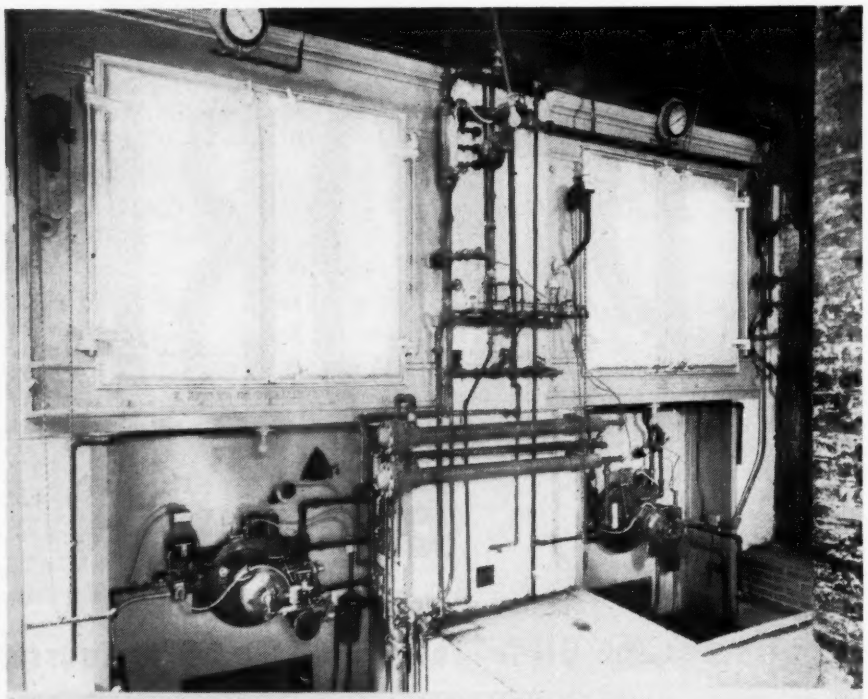
If the contractor is lucky, the concrete pit will be waterproof. If not so fortunate, he will have to then make a permanent installation of a sump pump with float control to keep the pit drained of seepage. This will require a cast-iron sump to hold out underground water and collect only pit seepage. And there must be a screen around the pump inlet to catch infiltrating sand. Furthermore, the screen must be accessible and removable for easy cleaning. Needless to add: pay special attention to cooling and insulation of such a foundation!

In general, Dutch Ovens are to be avoided. They are difficult to construct and hard to maintain. They are justified only when the extra combustion space they create cannot be obtained by pitting under the boiler, or raising the boiler, or where such added setting height would result in a high, narrow firebox that will lead to flame impingement or excessive refractory temperature. These few notes about Dutch Ovens are not intended to encourage their use, but to illustrate the technique if no other procedure is feasible to gain the desired combustion volume.

Principle of Dutch Ovens

A fundamental principle of heat transmission if borne in mind will lead to the proper construction for a Dutch Oven. Heat, like light rays, is reflected from a surface at the same angle with which it strikes. Two vertical walls will reflect the radiant heat from wall to wall, and little heat will rise upward. Two horizontal surfaces, like the floor and roof of an oven, will do likewise, keeping the heat bouncing up and down but doing little to advance it forward. Hence, Dutch Oven roofs should always slope upward. The radiant heat emitted by the flame then will strike the roof at an acute angle and be reflected at the same angle but in the forward direction, thereby being thrust forward toward the boiler surfaces. Flat arches bottle up the heat and raise the refractory temperature excessively; sloped arches, inclined upward toward the boiler, assist in liberating the heat and tend to reduce refractory temperatures. Arches may be built of arch brick, but a suspended construction of plastic refractory supported from a steel frame works out much better from a maintenance viewpoint, being easier to repair by replacing burned out portions instead of having to reconstruct the entire arch.

The heat-resisting materials used to construct that portion of the boiler setting that comes in direct contact with the flame and combustion gases



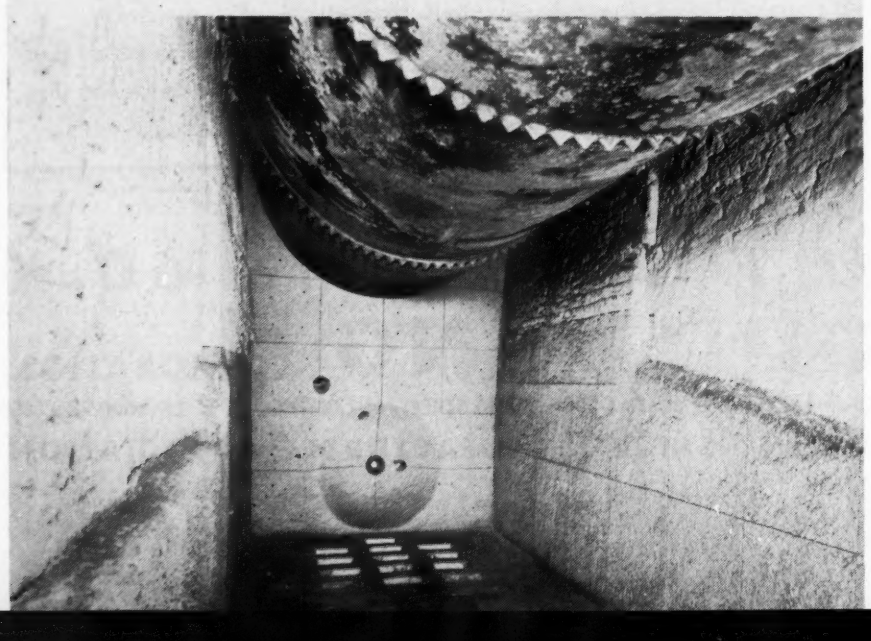


Fig. 2. *(Top) Conversion from hand firing to oil firing, two 150 hp. hrt high pressure boilers, on No. 6 oil.*
Fig. 3. *(Bottom) Inside converted hrt boiler, showing new refractory on side walls and new front wall.*

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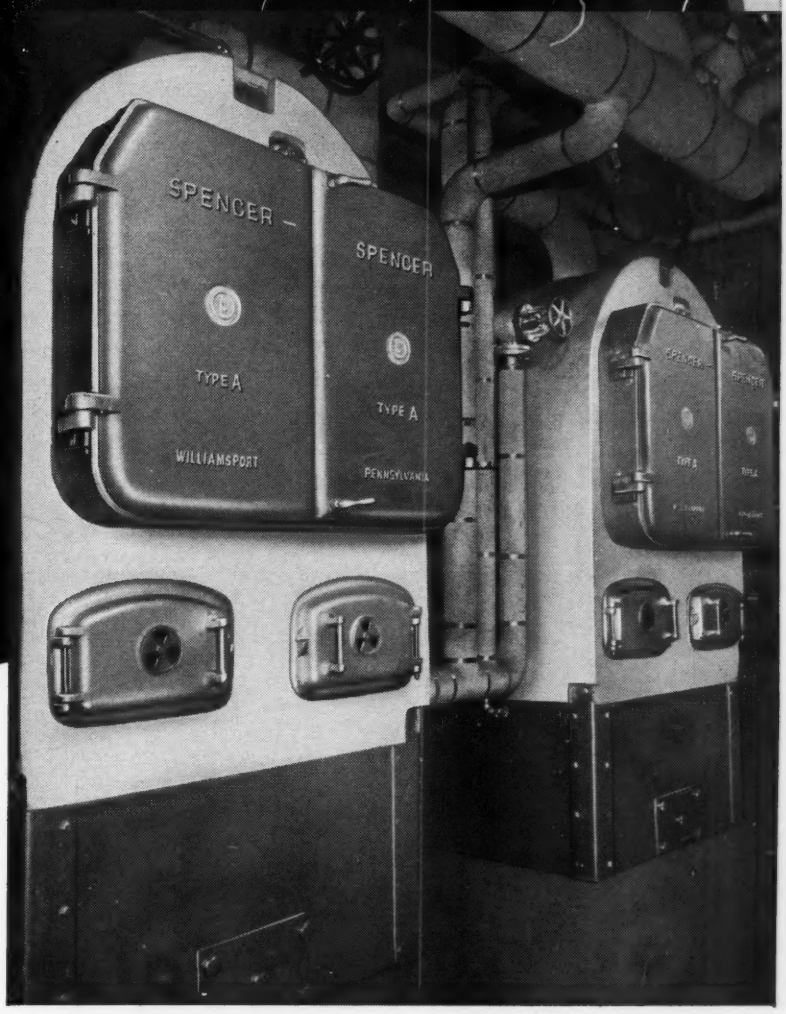

Modern Spencer Boiler installation in the new Montoursville Joint Area High School, Montoursville, Pennsylvania.

Architect: J. E. Boodon, AIA, Williamsport, Pennsylvania. *Heating Contractor:* Joseph Rado Company, Berwick, Pennsylvania.

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are known as refractories. The term includes: firebrick, plastic, castables, cements and insulation.

There are two classes of firebrick, each made in several grades. The first and more common class is the fireclay firebrick; it includes four grades: low duty, intermediate duty, high duty and super duty, the respective approximate softening temperatures being: 2770, 2985, 3075, and 3175 deg. F. The second class is known as the diaspore or high alumina brick, made principally in three grades: 50, 60 and 70 percent alumina (aluminum oxide), with respective softening temperatures of 3200, 3245, and 3290 deg. F. The most commonly used firebrick is the high duty fireclay brick, known throughout the industry as "first quality" firebrick.

The two lower grades can be used as backing brick in thick walls, or the regions not directly exposed to fire. Super duty firebrick is coming into more extensive use in recent years, because of its stability of volume and strength at high temperatures, excellent resistance to spalling (cracking), and high density. High alumina brick is used for special applications in boiler settings where operating conditions of unusual severity prevail, and in non-boiler structures, as metallurgical furnaces.

The objective when laying firebrick is to set the brick with as thin a mortar joint as possible. For this reason, firebrick is dipped in the mortar, and only that much which clings to the brick surface enters into the joint and serves to bond the adjoining brick together. The preferred bonding material for small and moderate sized jobs is the so-called air setting mortar, or high temperature cement, which effectuates a bond at room temperature. Older styles of mortar, known as fireclay, required high temperature, at least 2200 deg. F. in order to vitrify and unite with the adjoining brick.

The product known as plastic firebrick, or plastic refractory, or simply plastic, is an unburned fireclay mixture in a moist, pliable condition. It is applied by being pounded into place and shape, with suitable supports. When subjected to heat of the fire it hardens into a continuous firebrick mass. There are three grades, corresponding in properties, when burned, to high-duty, super-duty and 60 percent alumina brick. A surface constructed of plastic firebrick has the advantage of being monolithic, that is free from joints. (In standard firebrick construction, most failures begin at the joints).

It is important that plastic firebrick be used only where it will be subjected to a temperature high enough to assure vitrification or ceramic bonding. The usual practice is to apply plastic to a maximum thickness of 9 inches, and to avoid sections thinner than 3 inches. Vertical walls should be supported with flexible anchors that permit vertical and lateral movement with expansion and contraction. Arches and inclined surfaces should be suspended from steel hangers. Walls should be built up by applying the material in shallow horizontal layers, about 3 inches deep, and pounding it with a steel hammer weighing about 2 lbs. and having a surface area of about 2.5 sq. in. These horizontal layers are super-imposed, one upon the other, to build up a vertical wall.

The exposed surface then is smoothed or trimmed by cutting with a shovel. Vertical and horizontal slits about 1.5 in. deep are cut into the wall midway between adjacent hangers. Because of the contraction that occurs during the initial heating of plastic firebrick, these slits become permanent joints between large rectangular sur-

(*Please turn to page 97*)

Fig. 4. *Firebox boiler set with high base for rear firing, showing sloping dutch oven with top supported by steel framing.*

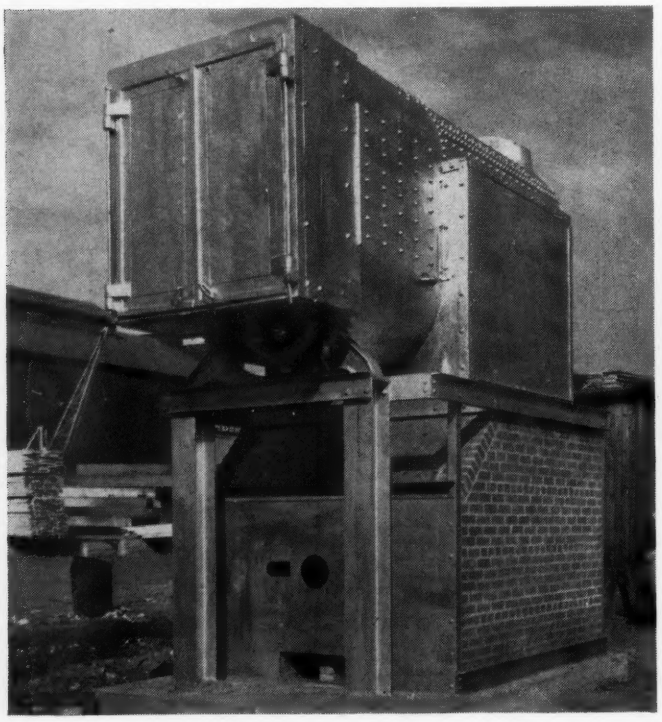
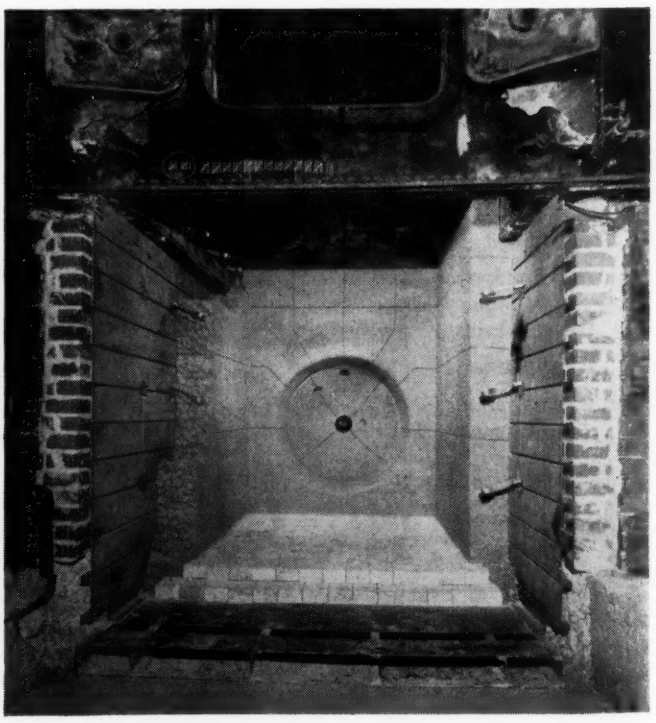


Fig. 5. *Rear fired firebox boiler, showing method for air cooling floor and side walls, and method of supporting plastic walls with alloy-steel flexible anchors.*



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COMMERCIAL & INDUSTRIAL oilburning

Protecting Fruit, Produce

Two oilfired Heaters used effectively by Roanoke Wholesaler

by

C. Kyle Whitescarver*

ONE OF THE LARGEST wholesale fruit and vegetable depots in the state of Virginia is operated by the C. C. Bova and Co. Oranges from Florida, bananas from the Caribbean, potates from all over the country flow in a never-ending stream into the Roanoke warehouse. Bova receives shipments by refrigerated rail car and by huge truck trailer rigs. Running a wholesale fruit and produce business is really like running a race—a race against time. The less time that elapses between harvesting and consumption at the housewife's table, the better the fruit and vegetables are and the higher the market price. It is a case of rush, rush, rush.

Generally speaking, freshness and health-giving qualities of the fruit and produce are maintained by carefully controlled temperatures. As far as Bova is concerned, this means refrigerated or insulated vehicles for the long haul. However, fruit and vegetables often arrive at Roanoke late in the afternoon. They cannot be distributed until the following day. Under normal conditions, the warehouse temperature is such that fruit and produce can be stored for a reasonable time without any damage to the edibles.

The winter of 1950-51 was different than most. There were times when the thermometer plunged to a cold 10 below zero. This might happen on a Saturday night—when operations at the warehouse were at a standstill, and personnel and equipment was not available for emergency action. While the warehouse did have a heating system of sorts, it was not even able to take the "chill" from the warehouse at zero temperature. Heating equipment could barely keep the second floor offices at a livable temperature. The eating qualities of bananas and tomatoes deteriorate rapidly if they are stored in a temperature lower than 55 degrees.

In order to correct the freezing condition and cut down loss of time by employees due to the extreme cold working area, Bova called in the Whitescarver Engineering Company of Roanoke, Virginia, and explained their problem. Whitescarver studied the warehouse operation carefully. They noted that huge doors were often open for loading and unloading trucks during the coldest weather.

Whitescarver then suggested the installation of two Model 300 oilfired Thermoblocs, manufactured by Pratt-Daniel Corporation of South Norwalk, Connecticut. Whitescarver explained that the space heaters are entirely automatic in operation and would function over weekends and late at night without an attendant. Fruit and produce in the warehouse would be protected at all times. Critical temperature was established at 55 degrees and whenever temperature in the warehouse dropped below that figure, the heaters would go on automatically.

Another factor leading to the choice of such units for this job was the fact that floor space is at a premium in this type of operation. The relatively long hot-air throw of the units meant that the entire area would be enveloped in a bank of warm air, which would descend gently, and circulate through and around the fruit and produce.

Protective heat condition was maintained even when almost one entire end of the building was opened to permit the loading and unloading of trucks in bitter weather. The strategically placed Thermoblocs set up a defensive curtain of warm air that met and dissipated the incoming cold air, so that inside temperature was uniform and heat was delivered only when it was actually needed.

*Whitescarver Eng. Co., Roanoke, Va.

One of two *model 300 Thermoblocs installed in the C. C. Bova Co. warehouse in Roanoke, Va. The oilfired heaters operate automatically and come on when a critical temperature of 55 degrees is reached in the warehouse. No attendant is needed, with the installation of the heaters providing protection for perishable produce overnight and over weekends. At the same time the heaters maintain comfortable temperatures in the warehouse.*

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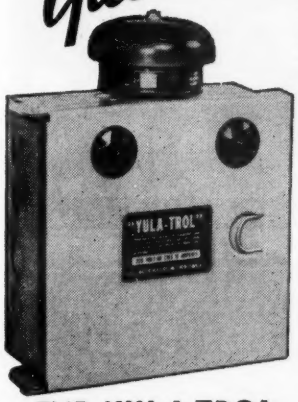

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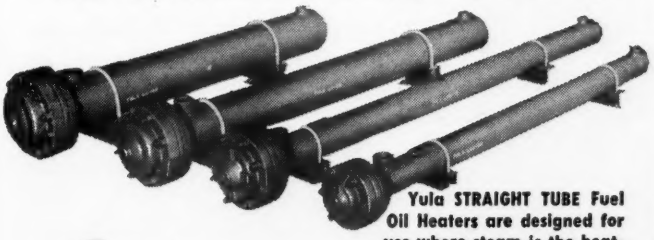

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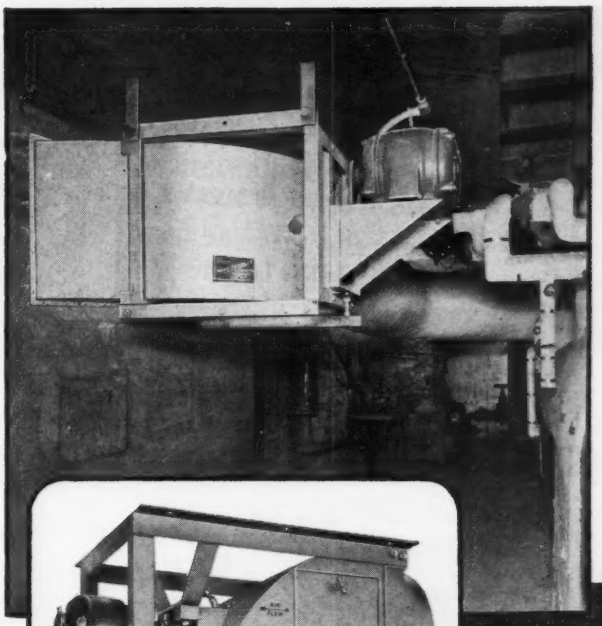
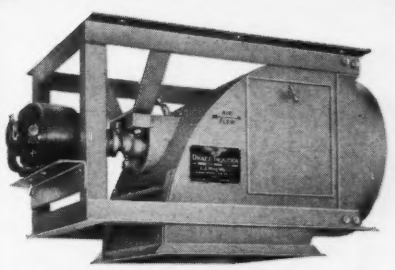
Call any Contractor or Distributor for their Opinion





Installation shows unit with side inlet. Illustration shows unit with bottom inlet.

Does "Draft" Mean "Tall Chimney" to You?

If it does, you will be agreeably surprised to see what a Wing Draft Inducer can do in furnishing positive uniform adequate draft without the need for tall, unsightly, expensive stacks. Unlike variable chimney draft, the Wing Draft Inducer permits operation at high efficiencies in any weather. It cuts fuel costs giving higher CO_2's. Smoking is greatly reduced or completely eliminated. The capacity of your heating plant is increased. Write for bulletin I-51.

Wing DRAFT INDUCER

L. J. Wing Mfg. Co.

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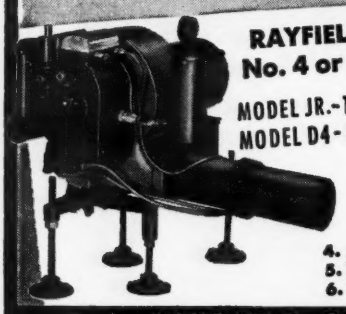
RAYFIELD AUTOMATIC OIL BURNERS



RAYFIELD BURNERS FOR No. 4 or No. 5 HEAVY OILS

MODEL JR.-1.00 to 5.00 GALS./HR.
MODEL D4-3.00 to 12.00 GALS./HR.

1. Fully Automatic
2. Self Cleaning Nozzle
3. Self Lubricating
4. All Electric Operation
5. Pays for itself from savings
6. Burns the cheaper No. 5 oil

PATENTED COMBUSTION HEAD OIL BURNERS

for CATALYTIC OILS TO #3 GRADE
2 MODELS-1.00 to 3.00 GALS./HR. CAPACITY

1. Amazing Economy 12 to 15% CO_2
2. Clean boilers with perfected combustion
3. Burns Catalytic oils easily
4. Quiet—No Vibration or pulsation
5. Cuts user's oil bills 14 to 36%
6. The ideal replacement oil burner

C. L. RAYFIELD COMPANY • 2010-18 SO. HALSTED ST. • CHICAGO 8, ILL.

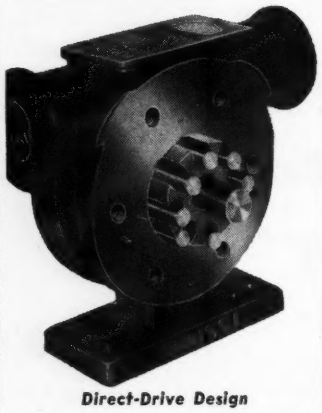
* SINCE 1926 * in the application, design and mfg. of pumps — separators — hydraulic accessories.

KRAISSL

FUEL OIL PUMPS

Compact, lightweight pumps that operate at wide ranges of speed—to handle oils of all viscosities and give long trouble-free life.

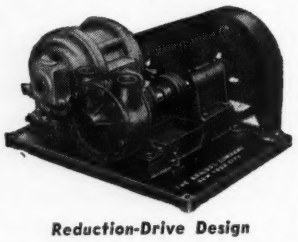
CLASS 50 LIGHT OIL PUMPS



Direct-Drive Design

Roller tolerances permit handling extraneous matter that would jam other mechanisms. Good suction characteristics. Capacities 60-600 GPH; pressures to 100 psi. Ask for Bulletin A-1330.

CLASS 60 HEAVY OIL PUMPS



Reduction-Drive Design

Time-Tested Kraissl design for direct burner supply—or as booster pump. The pump that will pull heavy oil when it is cold. Capacities, 75-1800 GPH; pressures to 100 psi. Ask for Bulletin A-1193.

Bulletin A-1330 and/or Bulletin A-1193 . . . gives you full data—write for your copy today!

KRAISSL KRAISSL CO Inc

295 Williams Ave., Hackensack, N. J.

Commercial-Industrial Group meets in Cincinnati

COMMERCIAL & INDUSTRIAL oilburning

"SALES POSSIBILITIES of Water Tube Package Boilers," was the title of a panel discussion, principal feature of the Commercial-Industrial Burner Section of OHI meeting in Cincinnati, January 24th. C. T. Burg, of Iron Fireman, presided, and the lead-off talk was given by Fred Hohnholt, of Foster-Wheeler Corp. Others on the panel were R. S. and W. H. Bohn, Preferred Utilities Mfg. Co., and Verne Resek, Cleaver-Brooks Co.

Two types: the standard and the boiler-burner unit, their sales and applications were discussed, with principal emphasis on the importance of proper engineering and service follow-up after the installation is made.

Other items on the program included Mr. Resek's report on his talk before the A.S.M.E. in Atlantic City on "Commercial Burner Oil Specifications," and the Section's efforts to secure uniform specifications throughout the country. Reports on residual supplies indicated minor shortages in various areas, notably in the Carolinas.

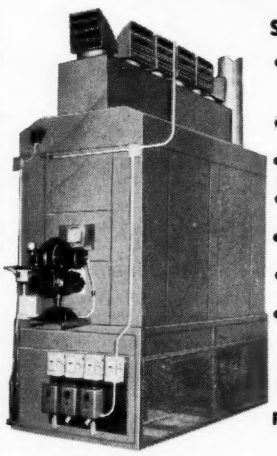
Those in attendance included Cy Burg, Iron Fireman; R. S. and W. H. Bohn, Preferred Utilities; Fred Hohnholt, Foster-Wheeler; Verne Resek, Cleaver-Brooks; J. C. Draper, Ray Oil Burner Co.; R. P. Johnston and William Thomas, S. T. Johnson Co.; R. S. Thoresen, Petroleum Heat & Power Co.; J. H. Sands and Art Wilcox, Eclipse Fuel Engineering Co.; Frank Harbin, Temp Rite Co.; B. T. Weichers and Pres Crewe, Webster Electric Co.; Kent Wilson, Minneapolis-Honeywell Regulator Co.; E. N. McDonnell, McDonnell & Miller Co.; John A. Menster, Babcock & Wilcox; J. W. Cowan, Ace Engineering Co.; Bryant Doty and Louis Litkenhous, Anchor Div., Stratton & Terstegge Co.; Ted Kaufman, of OHI, and Art Winkler, FUELOIL & OIL HEAT.

ARTCRAFT

Direct Fired

SPACE HEATERS

THE MOST MODERN, ECONOMICAL AND FLEXIBLE METHOD OF HEATING LARGE AREAS



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- INDUSTRIAL BUILDINGS
- BARRACKS
- REPAIR SHOPS
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FIRED WITH GAS OR OIL

Capacities: 200,000-2,000,000 B.T.U.
(Also Suspended Furnaces, 75,000-750,000 B.T.U.)

Manufactured by

Chicago Steel Furnace Co.

9326 S. ANTHONY AVENUE
CHICAGO 17, ILL.

Preferred Utilities Bulletin on Storage of heavy Fueloils

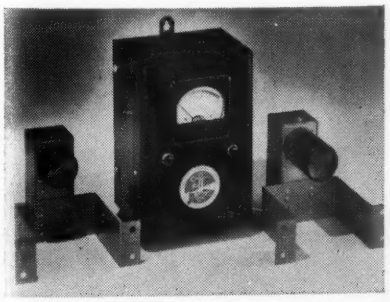
BULLETIN NO. 1644, published by, and available from, Preferred Utilities Mfg. Corp., New York 23, N. Y., explains the problems of storage and handling of residual fueloils and offers solutions. It describes the three basic problems—storage of oil in such a state that it can flow to the point where it is to leave the tank, handling of the oil from this point to the oil pump in the quantities needed by the burner equipment and delivery of fuel to the burner in a burnable state.

An 8-page section of the Bulletin then is devoted to discussions of each problem, accompanied by diagrams and charts that highlight details. Concluding portions of the booklet contain pictures, descriptions and specifications on Preferred electric oil line heaters, suction stub electric heaters, U-tube and tank outlet oil heaters. Diagrams also are included to show typical electric and hot water oil preheating systems.

Cleveland Indicators check smoke Density

CLEVELAND smoke indicators and controls are photoelectric cell systems, providing a constant check on smoke density. The system consists of a light source, a photoelectric cell, whose output is proportional to the density of the smoke and a Master Control, with amplifier, relay, smoke density meter and signal lights.

The light source and photoelectric cell are mounted on opposite sides of the breeching or smoke chamber, spaced from the breeching to permit natural air drafts to keep lenses cool and clean. The Master Control, which may be located remotely, can be set for a predetermined smoke density, while a non-adjustable time delaying circuit permits a small amount of smoke to pass before starting the control. Model SIC-D includes an adjustable time delaying circuit, permitting smoke control equipment to operate up to one minute after smoke has been eliminated.



Cabinet is heavy gauge steel, with hinged cover and lock hasp. Wiring is BX or conduit to multi-terminal barrier strip in cabinet. Standard units are available for 110 or 220 volt, 60 cycle current.

Made by: Cleveland Fuel Eqpt. Co., 7316 Associate Ave., Cleveland 9, Ohio.

B & W consolidates in Reorganization

IN A REORGANIZATION MOVE, Babcock & Wilcox, New York 6, N. Y., has consolidated under a boiler division what formerly was the marine, stationary boiler and special products depts. The B & W Tube Co., Beaver Falls, Pa., a subsidiary, was absorbed and now operates as the Tubular Products Div.

J. H. King, vice-president, was named to direct the boiler div. Luke

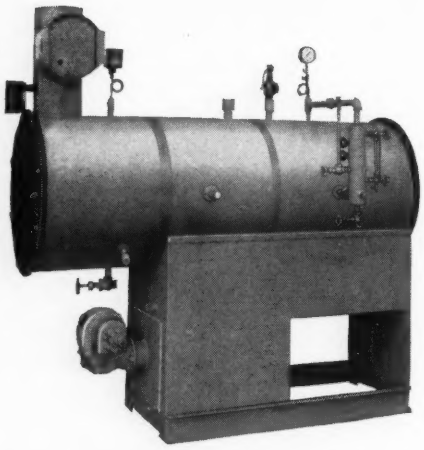
Ames Iron Works of Oswego, N. Y., major producers of steam generators from 10 to 500 h.p., have chosen Auburn electrodes for burner heads and for low water cut-off and pump control systems.

Auburn electrodes are made to highest practical quality standards, backed by our record of 42 years' continuous manufacture of fine automotive spark plugs and as one of the largest producers of jet aircraft engine ignitors.

Auburn ignitor electrodes have carbon-resistant glazed porcelain insulators and nickel alloy corrosion-resistant center wire. Boiler water control electrodes have mica insulation, with or without silica impregnation.

Available to original equipment manufacturers only. For catalog of standard types, or information about electrodes made to your specifications, write:

AUBURN SPARK PLUG CO., INC.
102 York St. Auburn, N. Y.



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Specially designed, fully insulated, small automatic units for:—

CLEANERS & DYERS
SMALL LAUNDRIES
GARMENT FACTORIES
TIRE RETREAD PLANTS
DAIRIES & CREAMERIES
BAKERIES — HOSPITALS
CANDY FACTORIES

Sizes:—3-5-10-15-25 horsepower.

A.S.M.E. Code & Nat'l Board. Vertical types available.

P. M. Lattner Mfg. Co., Cedar Rapids, Iowa

E. Sawyer and Edward A. Livingstone, president and vice-president respectively of the absorbed subsidiary, were named vice-presidents of the parent company. Mr. Sawyer will continue in charge of B & W Tube Co. and it was announced that under the reorganization, the present company will not change nor will its operations and responsibilities be altered.

M. Nielsen was named assistant vice-president and will aid C. H. Gay, vice-president in charge of manufacturing, in the operations of all company plants in the boiler division, including the new plants at Wilmington, N. C., and West Point, Miss. Mr. Nielsen's headquarters will be at Barberton, O.

Todd licenses S. A. Firm to make & sell Todd Burners

TWO AGREEMENTS recently concluded between the Combustion Equipment Div., Todd Shipyards Corps., N. Y., N. Y., and Fabrica de Caldeiras A Vapor Cyclose, Sao Paulo, Brazil, the oldest and largest manufacturer of steam boilers in Brazil, have been announced.

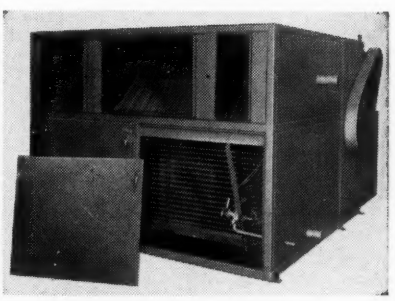
The first agreement gives the South American company exclusive distribution rights for Todd fuel oilburning equipment in Brazil for both stationary and marine service. The second agreement permits "Cyclope" to manufacture and sell Todd stationary oilburning equipment in Brazil under license.

Unit heats or cools as Required by Zones

KENNARD MULTI-ZONE Air Conditioning units are designed to provide heating or cooling as required by zones. Each zone operates independently of the other, furnishing either cool or warm air as required. This is accomplished by individual control of separate built-in face and bypass dampers for each zone and by arranging the heating and cooling coils parallel rather than in series as normally done.

Made by: Kennard Corp., 1819 So. Sanley Rd., St. Louis 17, Mo.

COMMERCIAL & INDUSTRIAL oilburning



THE ALSTROM
"SAFE GUARD" OIL PREHEATER
- **is completely "fuel-proof!"**
- **really heats oil!**

Alstrom Feature: Double Transfer protection without sacrificing heating capacity.

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• triple-tested • Visual Indicator, standard on all models

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Specifications Book
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PRICE $1.25

Size 5½ x 8 . . . . 220 pages

Quantity Prices on Request!

PLEASE MAIL REMITTANCE WITH ORDER!

HEATING PUBLISHERS, Inc.
232 Madison Avenue New York 16, New York

Design of the Industrial Installation

(Begins on page 86)

faces of plastic wall. Maintenance of these surfaces is only a matter of cutting out burned portions in a conical shape tapering toward the exposed surface. A plug of fresh plastic is then pounded into the hole, and is secured in place by the taper. Complete plastic fireboxes, after erection, should be fired slowly, preferably with a slow wood fire, to allow gradual evaporation of the moisture.

Insulation

While firebrick has some insulating qualities, it alone should not be depended upon to prevent overheating of concrete and steel surfaces that lie outside but adjoin the firebrick structure. The heat transmitted through nine inches of firebrick will cause concrete deterioration in some cases, and loss of important amounts of heat in almost all cases. A variety of materials has been made available for insulating purposes. A common construction is to use a 4½ in. thickness of standard firebrick in the exposed wall surface, and 4½ in. of insulating firebrick on the outside surface, to build up the 9 in. wall, with occasional header courses for tie-in.

In this construction, the standard firebrick takes the brunt of the fire and heat, while the insulating firebrick serves as the backing up course and greatly reduces the transmission of heat through the wall. However, this construction should be used only for low pressure heating boilers having intermittent duty. For continuous service in high pressure or process applications, the inside or exposed surface would become too hot because of the storage of heat, and the firebrick would not last the normal span for good refractories.

To protect steel and concrete, the most common insulator is the block of mineral wool sold under various trade names and in varying size sheets, the most common being 6 in. wide, 24 in. long, and available in standard thicknesses of 1, 2, and 3 in. A layer of this should always be placed against the inside surface of the steel plate that forms the front of the usual boiler setting and to which the burner is bolted. The layer should be 3 in. thick, except where the bowl of plastic is formed around the burner firing port, where 1 in. is the maximum permissible.

Another useful insulator is a castable, or form of cement having low heat conductivity, quick setting qualities, which can be mixed and poured as the bottom of a setting, instead of concrete made from Portland cement and regular aggregates. This insulating cement forms a hard, insulating layer over the clay at the pit bottom and when troweled smooth forms an excellent foundation for the firebox. It eliminates a waiting period required for regular concrete to set up. In overnight installations, this means a saving of many valuable hours, and permits conversion from coal burning to oil burning within the span of one night, if necessary. Or the same castable insulation may be poured over a concrete pit floor, to be paved with firebrick, and serve to retard flow of heat into the floor and thus protect the concrete as well as conserving heat.

wheelco instrumentality

LOW-COST BOILER INSURANCE

wheelco flame-otrol

For Improved Instrumentation—get the complete automatic combustion safeguard. It's a simple and versatile flame detector to provide Safe Start—Safe Operation—Safe Shut-off on all types of oil and gas burners. Approved by Associated Factory Mutual Laboratories and Underwriters' Laboratories.

Get complete details. Write for FLAME-OTROL BULLETIN F-3, Wheelco Instruments Company, 868 W. Harrison Street, Chicago 7, Illinois.

wheelco electronic controls

PREFERRED Anti-Syphon Valves

FR-194

APPROVED BY

UNDERWRITERS' LABORATORIES, INC.

Permits pumping of oil but closes to prevent syphoning in case of suction line break.

FOR OILS UP TO No. 5
Valves C5 and C10 are available in ⅜" and ½" sizes.

FOR OILS UP TO AND INCLUDING No. 5
Valves B5 and B10 are available in ¾" and 1" sizes. (1" size is built up from ¾" size with fittings.)

FOR OILS UP TO AND INCLUDING No. 6
Valve A is available in 1¼", 1½" and 2" sizes for 5 or 10-foot head pressures.

You can be sure of the best when you order from Preferred, the oldest and the largest manufacturer of anti-syphon valves.

PREFERRED UTILITIES MFG. CORP.
1860 BROADWAY, NEW YORK 23, N.Y.

Add oilburner Courses in New York City Schools

THE OIL INDUSTRY Educational Commission is sponsoring courses in installation and trouble shooting and domestic oilburner controls for mechanics in the industry at three New York City trade schools. The Committee, which works with the New York City Board of Education, has announced, through its executive secretary, Philip H. Schepp, that registration for the first class at the Thomas Edison Evening Trade School, Jamaica, N. Y., George O'Marah, teacher-in-charge, took place on January 7 and registration for the first class at Samuel Gompers Evening Trade School, Bronx, N. Y., Elmer C. O'Donnell, teacher-in-charge, was on February 4. A third series of courses will get underway during March in the Brooklyn Technical High School.

Classes at each school will be held on Monday and Wednesday evenings from 7 to 9 P.M., for a total of 16 hours of instruction, including lectures and shop work on installation, hook-up, trouble shooting and replacing of typical types of domestic oilburner controls. There is to be no charge made for the instruction, which will be limited to full time employees in the oilburner industry.

The complete schedule worked out for the three schools has arranged for courses on controls and pumps, covering fuel units and pressure regulating valves, to be rotated so that each will have complete sessions on both subjects. During February the pump instruction will be given at the Thomas Edison Evening Trade School and in April the control course, held during January will be repeated.

At the Samuel Gompers Evening Trade School Monday and Wednesday classes on controls are to be held during February, pump classes in March. Controls instruction will be given at the Brooklyn Technical High School during March, pump instruction during April.

The controls classes will have one hour sessions on each of five makes of controls, Penn, Mercoid, Perfex, White-Rodgers and Minneapolis-Honeywell. Specific instruction also will be held for one hour each on three makes of pumps and fuel units, Tuthill, Sundstrand and Webster.

These classes are to be in addition to the regular oilburner courses already being held at the three schools.

❖

A. R. Barnett has been appointed vice-president in charge of sales for A. P. Green Fire Brick Co., Mexico, Mo. Barnett has been with Green Co. 28 years, serving as general sales manager the past two years. Prior to this he worked in the sales, manufacturing, shipping and finance depts. A. P. Green is founder and chairman of the Board at the Green Co. Other vice-presidents are H. B. Plunkett, L. G. Miller, A. D. Bond, W. G. Staley, N. S. Wood and P. S. Bradley.

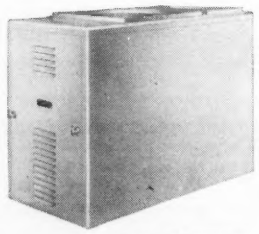
for greater quality . . . greater sales

ECONOMY®
WARM AIR FURNACES

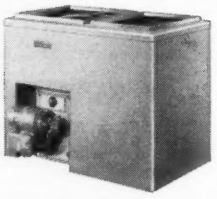
FOR OIL

Oil Economy furnaces are easily convertible to gas at any time.

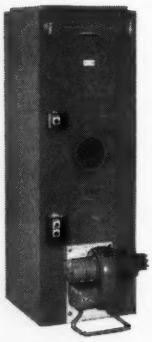
OIL ECONOMY HI-BOY



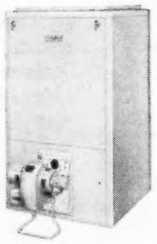
OIL ECONOMY



"65" CONSOLE

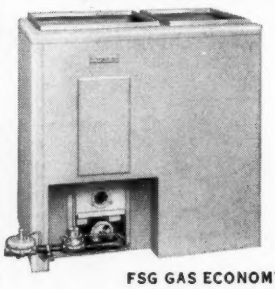


COUNTERFLO

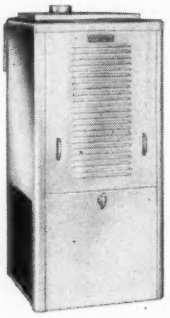


GRAVITY

FOR GAS



FSG GAS ECONOMY



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International Economy Warm Air Furnaces meet all of TODAY'S heating requirements. For complete satisfaction and sure profits, install Economy furnaces . . . either forced air or gravity—cast iron or steel . . . for oil, gas and coal firing in a full range of models and sizes.

SEE YOUR JOBBER TODAY

OVER 100 YEARS OF HEATING EXPERIENCE

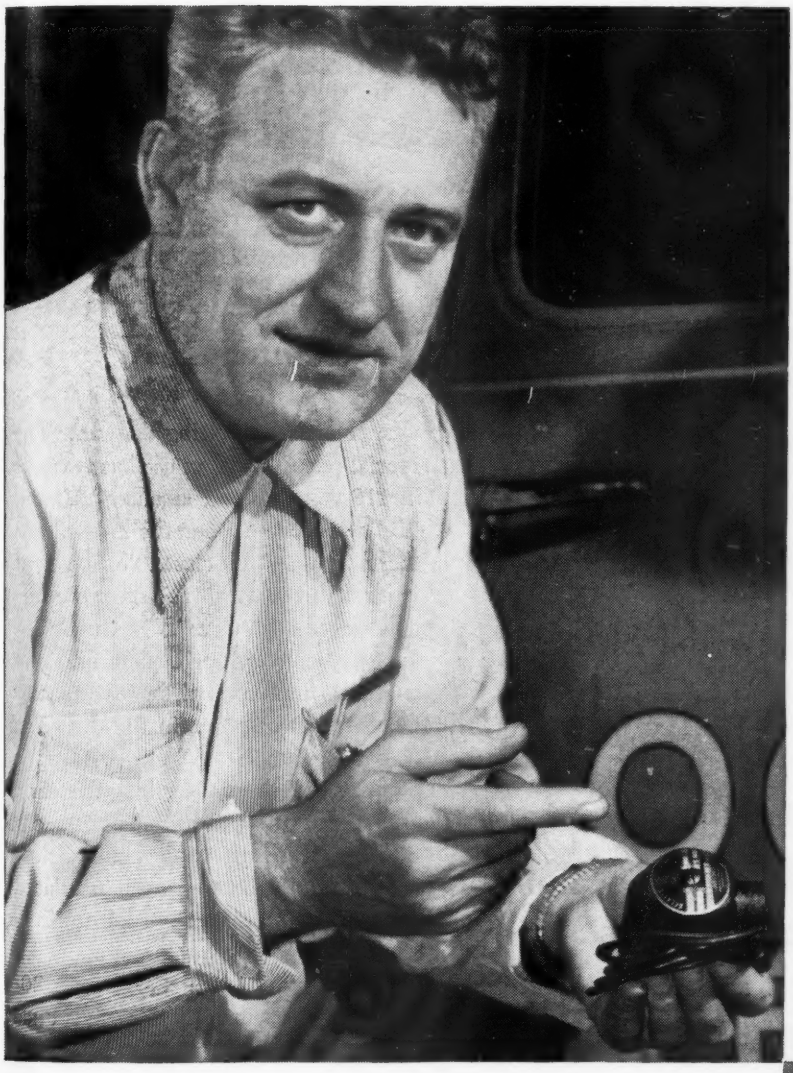
INTERNATIONAL HEATER COMPANY

UTICA 2, NEW YORK

(Western Office and Warehouse, 1933 Wentworth Ave., Chicago 16, Ill.)

"I put Honeywell delayed-opening oil valves on all my jobs—here's why..."

... says Mr. Joe Kuta, Berwyn, Illinois, Honeywell Dealer



"Service calls to clean soot-clogged oil burners used to cost me a lot of money.

"But that was before I discovered the Honeywell Delayed-Opening Oil Valve. When I saw how it cut down carbon deposits, I made up my mind to use it as standard equipment on every job.

"Now my customers get a cleaner, more efficient burner and lower fuel bills. And I get fewer complaints and troublesome in-warranty service calls—the kind that used to eat up a good share of my profit.

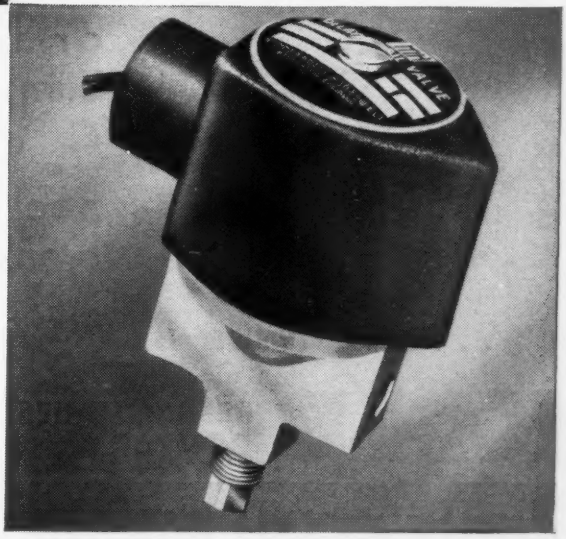
"As I see it, the homeowner may have to live *in* that house after I put in the heating—but I have to live *with* that house for the rest of my days. And my reputation in this area is too good to risk even one poor installation job."

☆ ☆ ☆

Veteran oil burner man, Joe Kuta, has the right idea. Follow his advice and specify the Honeywell delayed-opening oil valve on all *your* jobs. You'll be money ahead in the long run!

H HONEYWELL

Another Plus-Profit Product from Honeywell



Assures a clean start, a clean stop every time!

The Honeywell Delayed-Opening Valve eliminates the last trace of smoke on oil burner starts and stops. This added cleanliness helps maintain furnace or boiler efficiency, reduces the need for service calls, and decreases customers' fuel bills. It can be installed in just a few minutes on existing high pressure oil burners. For complete information, call your local Honeywell office. Or write Honeywell, Dept. FH-2-07, Minneapolis 8, Minnesota.

MINNEAPOLIS **Honeywell**

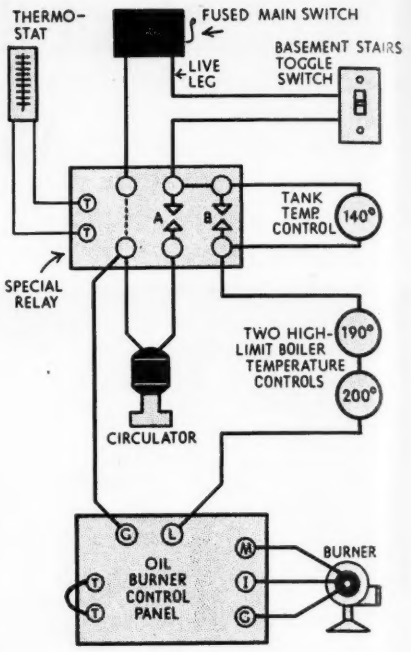
First in Controls

fueloil & oilheat

Readers' Problems

Q. On p. 129 of your November issue in answer to a reader's question, you say that using a hot water tank you can use a tank temperature control to permit the heating boiler to chill in summer when the tank is hot enough. How do you wire this tank control, using forced hot water heating? We like the idea because it eliminates standby loss of the heating boiler, which is greater than loss from an insulated hot water tank, so saves oil in summer.

J. B. O. B., Duluth, Minn.



A. Here's the wiring diagram. The special relay you must use has two sets of 110-volt contacts, labelled "A" and "B," which close when the low-voltage thermostat circuit closes. When heat is needed, contacts "A" start the circulator, and contacts "B" start the oil-burner. Some burner dealers use only one high limit control, but we recommend the two shown in the drawing.

With contacts "A" and "B" open because no heat is needed, the tank temperature control starts only the oil-burner when the tank chills below 140°. With the tanks well insulated and the tanks and tank-type indirect water heaters of ample size, many installations wired this way give a 20-minute oilburenr "on" period once every eight to twelve hours. Summer oil consumption is half of what it would be without this special wiring.

* * *

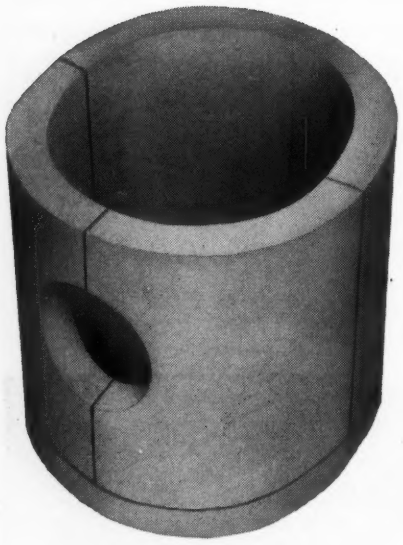
Q. Could you advise us who might have a method to correct faulty operation of a television set caused by operation of a domestic oilburner?

Although our number of calls have been few, we are occasionally called in to correct this condition, and not being television service men we are at a loss in correcting same. We have tried the methods used for eliminating radio interference but these have been unsuccessful.

Any help you can give us will be appreciated.

W. W. H. M., Montclair, N. J.

Do Your PRESENT PRECAST CHAMBERS Give You ALL these Advantages?



1. Low initial cost.
2. Low installation cost — only 5 pieces to assemble.
3. K-factor equal to insulating brick.
4. Excellent performance with either high or low pressure burners.
5. Scientifically packed to prevent breakage.

. . . if the answer is NO -- contact us NOW!

KOLB REFRACTORIES COMPANY Meadow & Jackson Sts. Philadelphia, Penna.

KolbKast Insulated Chambers

MONCRIEF

provides your customer with

Heating Insurance

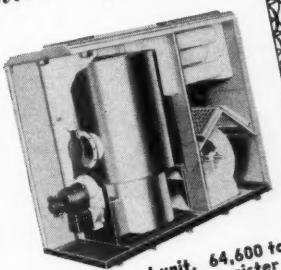
against fuel situations

because:

most MONCRIEF units are designed for either gas or oil and approved for both

Moncrief Air Conditioning Unit

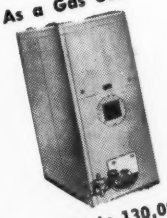
As a gas-fired unit. 100,000 to 250,000 B.T.U. Input



As an oil-fired unit. 64,600 to 180,000 B.T.U. at register

The Gravity Furnace

As a Gas Unit



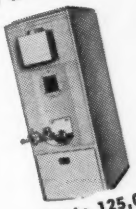
85,000 to 130,000 B.T.U. Input

As an Oil Unit

60,600 to 85,000 B.T.U. at register

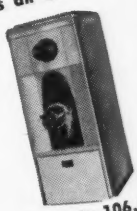
The Utility A.C. Unit

As a Gas Unit



95,000 to 125,000 B.T.U. Input

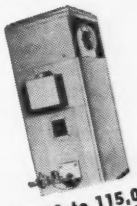
As an Oil Unit



75,100 to 106,000 B.T.U. at Bonnet

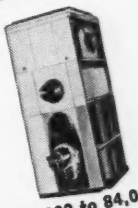
The Counterflow Unit

As a Gas Unit



95,000 to 115,000 B.T.U. Input

As an Oil Unit



75,100 to 84,000 B.T.U. at Discharge Outlet

The BIG question that confronts the homeowner and builder—is there going to be gas available for home heating—is there going to be gas for my particular home?

Moncrief dealers have the BIG answer to this BIG question!

With Moncrief you have no fuel worries—no fuel complications because—Moncrief furnaces are designed and approved for satisfactory heating with either gas or oil and—can be so easily converted from one fuel to the other—anytime—and deliver the same, satisfactory heating results.

So—with Moncrief's BIG answer you really provide the customer HEATING-INSURANCE against any fuel situation which might arise.

Let your Moncrief jobber tell you about the most revolutionary selling program in Moncrief history. Let him give you the sensational new, low prices. He will show you how you can multiply your sales—multiply your profits. See him or write direct to us for the name of the jobber nearest you.

THE HENRY FURNACE COMPANY • *Medina, Ohio*

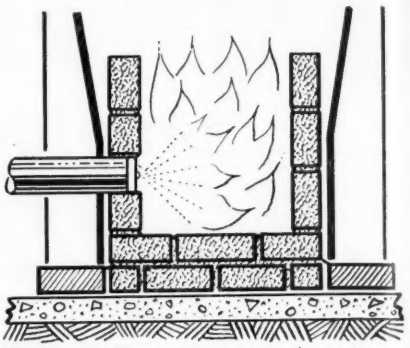
HEATING AND AIR CONDITIONING UNITS — MONCRIEF — FURNACE PIPE AND FITTINGS

A. Probably you have tried such usual remedies for radio interference as grounding the oilburner and furnace or boiler, driving into the ground close to the oilburner a ¾" electrode eight feet long and connecting the burner chassis to it, and trying different models of ignition transformers and radio interference traps.

Your next best bet is to obtain information on exceptionally effective devices made to correct the trouble. You can obtain information on these from the Sprague Electric Company, North Adams, Mass.

Q. Certain jobs have concrete floors so tremendously hot around the entire warm air furnaces as to prove a great loss of heat there, giving me the idea that when we re-set or re-build a coal-designed furnace and thus have the opportunity for this, we should eliminate entirely this loss by setting the entire warm air furnace on a layer of efficient insulating material. My drawing shows this with the furnace weight supported by common red brick, heavy firebrick, or concrete. Under the flame itself is a 4½" or 5" thickness of highly insulating material, half of which may be the insulating firebox material. Please discuss how great the oil savings would be.

H. E. B. S., Westby, Wis.



Eliminate Floor Heat Loss by using Insulation under Entire W.A. Furnace?

A. Where you find the concrete floors around furnaces extremely hot, you should blame either firebox deterioration or use of the worst kinds of fireboxes. Good fireboxes do not heat basement floors to the extent you describe, and do not give a high heat loss that can be reduced to save, say, 5% to 10% of the oil burned previously. To install suitable insulation 4½" or 5" thick may pay fuel-saving dividends on commercial installations fired harder than 25 gph. Firebox insulation certainly is needed for many industrial installations fired much harder than this. But laboratory tests of furnaces prove it is not worthwhile to apply your idea to typical domestic furnaces. Instead of using insulation under the entire furnace, just make certain to build a combustion chamber which is truly excellent.

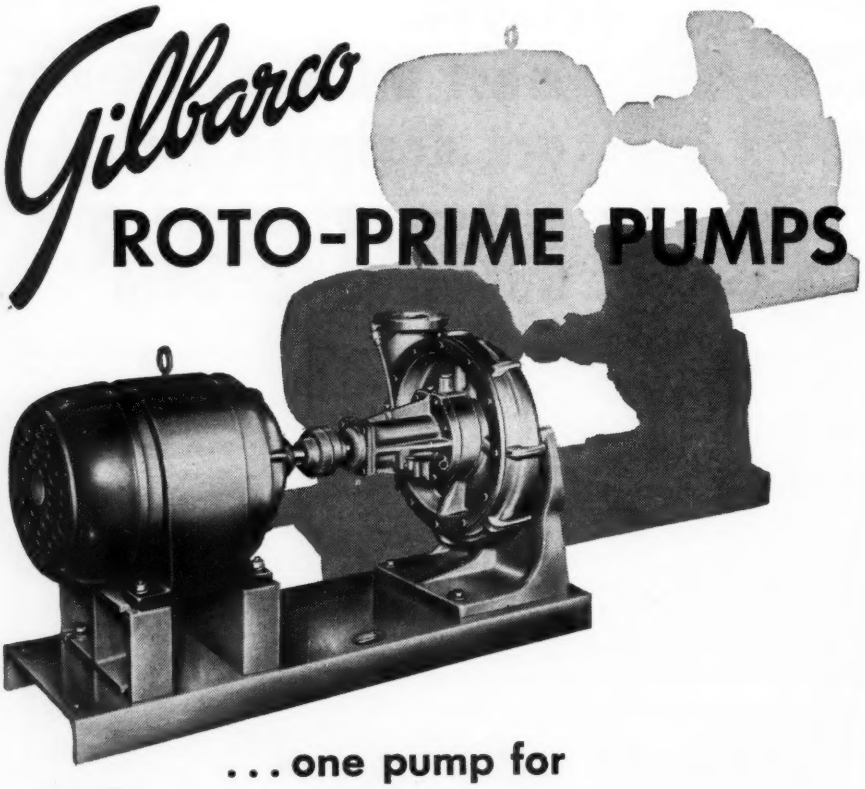
❖

William K. Whiteford, former president and board chairman, The British-American Oil Co., Toronto, Canada, was elected a director and executive vice-president, Gulf Oil Corp., Pittsburgh, Pa. at the October meeting of the company's board of directors. Also elevated to vice presidencies were *W. L. Naylor,* comptroller, and *Ralph O. Rhoades,* executive assistant to the vice-president.

M. H. Arveson was elected to a four-year term as director-at-large, American Chemical Society, N. Y. 17, N. Y. Mr. Arveson is technical director of the Indoil Chemical Co., a subsidiary of Standard Oil Co. (Indiana).

Gilbarco

ROTO-PRIME PUMPS



. . . one pump for more than one pumping job!

This *truly* self-priming pump automatically and positively evacuates any air and vapor present in the lines at either the start or finish or during the run. Thus a single Gilbarco Roto-Prime can do the work for which 2 or 3 pumps are usually needed. In transferring and loading operations, for example, a Roto-Prime will strip tankers, tank cars, or transports to intermediate storage and this same pump will also handle the loading. The result is a possible saving of 30% to 50% in the cost of equipping a bulk plant with pumps.

All Gilbarco Roto-Prime Pumps are furnished *complete* . . . with base, electric motor, coupling, built-in check valve and mechanical seal.

Write today for literature and complete information.

POSITIVE SELF-PRIMING

STARTS WITHOUT PRIMING

RUNS WITHOUT VENTING

GILBERT & BARKER MANUFACTURING COMPANY

West Springfield, Mass. • Toronto, Canada

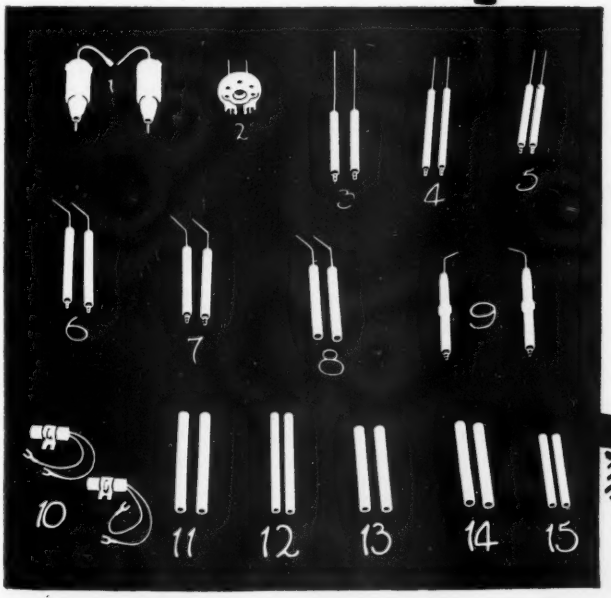
SID HARVEY'S Is The Place To Get IGNITORS

Long Ones — Short Ones
Thick Ones — Thin Ones
EXACT REPLACEMENTS
and Porcelains Too
IN ALL SID HARVEY STORES

•

Make SID HARVEY'S YOUR HEADQUARTERS For Every Service Need OIL — GAS — STOKER

HARVEY IGNITOR PACKAGE No. 5



This is the assortment that you need in every service car. PACKAGE No. 5 will take care of your ignitor needs on all standard and 3 popular special burners. Includes 2 "across the line" radio noise suppressors and 5 pairs of assorted porcelains.

Trade Price $14.05

TIMKEN 50B
TORIDHEET
WAYNE
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SID HARVEY INC.
VALLEY STREAM, NEW YORK

BOSTON · BRIDGEPORT · MT. VERNON · HEMPSTEAD · JAMAICA · NEWARK · UNION CITY
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Industry Groups

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 18th.

IOMA elects Officers; hears news Analyst

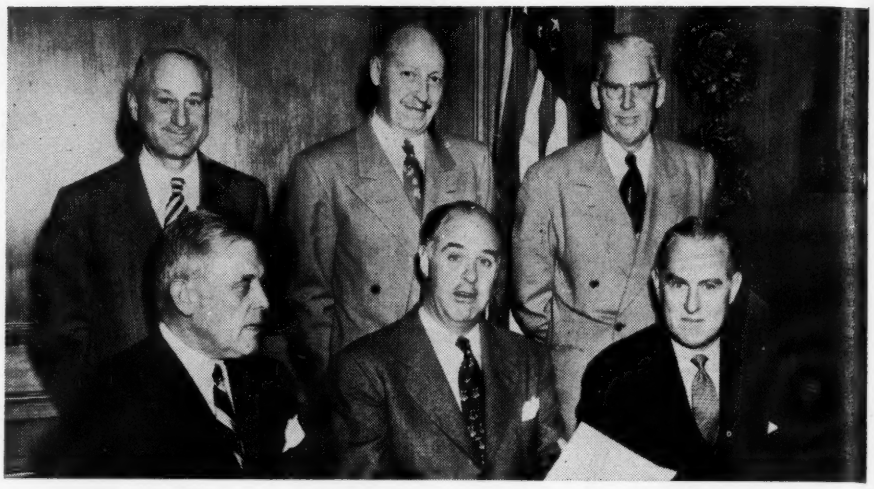
JOHN H. CRIDER, Pulitzer Prize winner, news analyst and former editor-in-chief, *Boston Herald,* addressed the Independent Oil Men's Association of New England at their annual dinner held at the Hotel Statler, Boston, January 10, 1952.

Speaking on the subject, "America's Prospect in Peace or War," Mr. Crider outlined a program for peace which he felt this country should follow.

Executive reports were given and election and installation of officers were held in the afternoon.

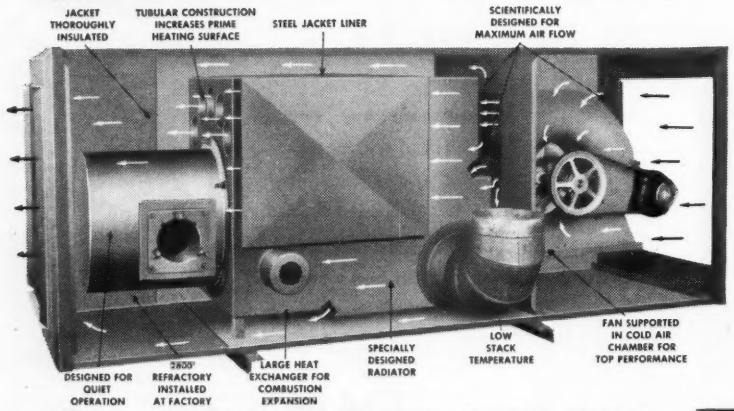
Re-elected as officers of the Association were: President, Horace E. Davenport, George W. Pickering Co., Salem, Mass.; Vice-president, Wesley E. Downing, State Fuel Co., East Boston, Mass.; Treasurer, Robert W. Carney, Carney Young Utilities, Inc., Brighton, Mass. and Secretary, Fred A. Whetton, Whetton's Oil Co., Needham, Mass.

Of the 16 member Board of Directors, seven director's terms were unexpired. Re-elected to the Board were: Marcel Fugere, Manchester Coal & Ice Co., Manchester, N. H.; Fritz F. Nelson, Petroleum Heat & Power Co., Boston, Mass.; William C. O'Meara, Pennsylvania Oil Co., Somerville, Mass.; J. Everett Robbie, Quincy Coal & Oil Co., Quincy, Mass.; Richard Tait, Hedlund Coal Co., Worcester, Mass.; Benjamin Waldman, Boston



Shown above are executive officers *elected at the annual meeting of the Independent Oil Men's Association of New England.* **Front row,** *left to right: Wesley E. Downing, vice-president; H. E. Davenport, president and Robert W. Carney, treasurer.* **Back row,** *left to right: Louis E. Gardner, director; Fred A. Whetton, secretary and Carl Blanchard, director.*

Wondaire ...OUTSTANDING DESIGN, PERFORMANCE and SALES!


JACKET THOROUGHLY INSULATED
TUBULAR CONSTRUCTION INCREASES PRIME HEATING SURFACE
STEEL JACKET LINER
SCIENTIFICALLY DESIGNED FOR MAXIMUM AIR FLOW
DESIGNED FOR QUIET OPERATION
2600° REFRACTORY INSTALLED AT FACTORY
LARGE HEAT EXCHANGER FOR COMBUSTION EXPANSION
SPECIALLY DESIGNED RADIATOR
LOW STACK TEMPERATURE
FAN SUPPORTED IN COLD AIR CHAMBER FOR TOP PERFORMANCE

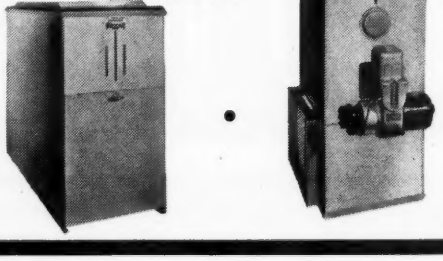
Expansion of plant facilities enables us to add a limited number of jobbers and dealers to our lists. Wondaire, without a doubt, is the world's finest suspension-type oil or gas fired furnace. Sizes from the smallest to the largest are available including: 80,000; 95,000; 115,000; 150,000; 225,000; 300,000 and 400,000 BTU. Specially-designed tubular construction provides highest efficiency. Shipped completely assembled — all parts standard and nationally known. Become a Wondaire jobber or dealer NOW!

SELL TROUBLE-FREE, OIL FIRED HEAT

Cash in on the tremendous demand for suspension-type furnaces—write for attractive dealer or jobber sales plans. Increased production brings better delivery—and you can meet or beat all competition for practical, well-made, efficient furnaces. Domestic furnaces have same outstanding features, high quality construction and efficient performance as the suspension-type units. Write, wire or phone *today* for complete details!

• Wondaire Domestic Oil Fired Furnaces are available in the following sizes: 80,000; 95,000; 115,000; 150,000 and 212,000 BTU. Both Low Boy and Hi Boy models.

MODEL R • MODEL H



COX MANUFACTURING COMPANY
RIDGEVILLE, INDIANA
EXCLUSIVE MANUFACTURERS OF WONDAIRE DESIGNED FURNACES

WORLD'S FINEST OIL OR GAS SUSPENSION FURNACE

Cut Down on Your Service Call-backs with the New G-E Oil-Burner Control

A Complete, New Control System For Use with Any Home Oil Burner

Reduce call-backs—save on installation time—eliminate nuisance lockouts—with the new General Electric control system. Yes, G.E.'s new master control is permanently pre-adjusted at the factory; the ignition, scavenging, and lockout timing cycles are already set for you, and a change in stack temperature will not change the timing. And installation is easier. All of the controls are non-position-sensitive; you don't have to do any leveling, and wiring space is more than adequate.

You get uniform temperature with a minimum of starting and stopping because the handsome room thermostat is equipped with G.E.'s exclusive "Comfort-Dial." All of the components, which also include immersion temperature, steam pressure, and temperature limit controls, have been simplified; they can be custom-tailored for each individual application.

G-E control can be installed on all regular makes of domestic oil burners. You can obtain this control through your normal source of supply. And to help you get familiar with it, we'll be glad to send you a copy of our new service manual. Just mail us the coupon below.

General Electric Company, Schenectady 5, New York

General Electric Company, Section C740-1
Schenectady 5, New York

Please send me the following bulletins:

- ☐ for reference purposes
- ☐ in connection with immediate projects
  - ☐ GED-1432—Domestic Oil Burner Control
  - ☐ GEH-1907—Service Manual

Name .....

Company .....

Street .....

City ..... State .....

GENERAL ELECTRIC

fueloil & oilheat

Ice Co., Boston, Mass. and Geo. F. Williams, Petroleum Engineering Corp., Springfield, Mass. Elected as a new director for a two year term was Carl Blanchard, Wyatt, Inc., New Haven, Conn., with Louis E. Gardner, General Heat & Appliance Co., Boston, Mass., elected for one year.

Elected to the Advisory Board were: Arthur Wathey, Batchelder, Whittemore Co., Boston, Mass.; Augustus L. Dwelly, Automatic Heating Corp., Boston, Mass., and A. R. Sandria, A. R. Sandria, Inc., Greenfield, Mass.

Prospect for burner Sales is Topic at MOHA Meeting

ROSS M. SHERMAN, president, Silent Glow Oil Burner Corp., Hartford, Conn., was the principal speaker at the regular monthly dinner meeting of the Massachusetts Oil Heating Association, Boston, held January 15 at the Hampton Court Hotel, Brookline.

Discussing the topic, "Prospects for oilburner sales in 1952," Mr. Sherman analyzed the outlook and the problems that dealers can expect to encounter.

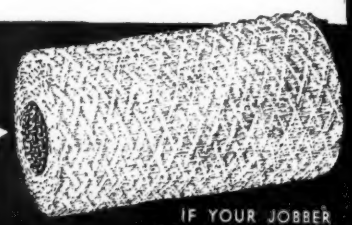
Fulflo Filters

To increase your profits...

Stop costly Service Calls!

- **The finest heating oils, no matter how carefully handled, will pick up minute solid impurities which, unless removed, can cause clogged nozzles, fouled points, scored pump bearings or stuck control valves.**
- **Alert Dealers do not depend on strainers, magic chemicals or filters of unproven performance to remove these causes of costly service calls.**
- **There are more FULFLO Filters than any other make on the Oil Burners of America. This is because Dealers everywhere have learned that they provide the best obtainable protection against costly service calls arising from minute oil impurities.**

The Honeycomb Filter Tube of a FULFLO Filter gives true depth filtration which ensures oil of microscopic clarity at all times. Stops costly service calls.

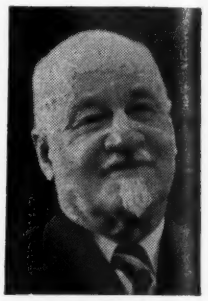


IF YOUR JOBBER CAN'T SUPPLY YOU WRITE OR WIRE US

COMMERCIAL FILTERS CORPORATION
Boston 27, Massachusetts

ASHVE honors Homer Addams with F. Paul Anderson Medal

HOMER ADDAMS, chairman of the board, Fitzgibbons Boiler Co., New York, N. Y., was presented with the 1951 F. Paul Anderson Medal by Lauren E. Seeley, president, The American Society of Heating and Ventilating Engineers at their 58th annual meeting in St. Louis, January 30.



Addams

Mr. Addams, the only living charter member of ASHVE and a past president, became the tenth recipient of the award since its establishment in 1930 for his "outstanding work in the field of heating, ventilating and air conditioning."

His career closely paralleling the advancement of engineering practice, research and development techniques in heating and boiler design, Mr. Addams first started with Kewanee Boiler Co. of Illinois in 1903. He formed the Kewanee Boiler Co., N. Y., serving as its vice-president until he became president in 1921, acquired and became president of Fitzgibbons Boiler Co., the same year, remaining active, until several years ago, in both companies.

Warm air heating short Course set for April at Purdue U.

THE 3RD ANNUAL warm air heating short course, April 9, 10, 11 and 12 is to be held in the Mechanical Engineering Bldg., Purdue University, Lafayette, Ind. Enrollment is not restricted to residents of Indiana and is open to anyone engaged in warm air heating contracting, installation, sales or design, or to persons wishing to prepare to enter the field.

The problems to be covered are divided into four courses:

Course A (for student of limited experience): Five room house with basement and attic (to be heated) designed for gravity and forced air.

A good practical background would be desirable for enrollment in the following courses:

ANCHOR

offers a franchise never before equalled in the heating field!

THE NEW ANCHOR FRANCHISE

The new Anchor franchise sets a new standard of relations between manufacturer and dealer. Many advantages and extra-profit features are incorporated in the Anchor agreement to help you make more sales . . . greater profits . . . than ever before.

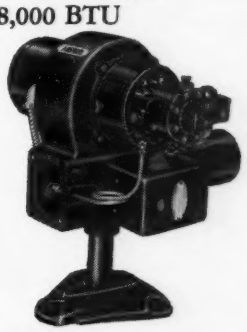
Mr. Bryant Doty of Anchor Says:

"I've never before seen a dealer opportunity to match this new Anchor set-up. Get the facts today! Just mail the coupon (below) and I'll do the rest."

A Furnace Line that's REALLY Complete

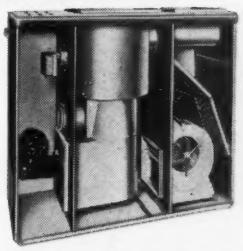
Hi Boy Models — For Hi-Pressure Oil
Lo Boy Models — Forced Air Types
For Vaporizing Oil — Gravity Types
From 59,200 to 148,000 BTU

An Oil Burner for Every Job



A Product That's RIGHT!

The new Anchor oil furnace is the finest in our history. Nothing on the market today can match it for beauty, economy, performance and durability.



ANCHOR

DIVISION OF STRATTON & TERSTEGGE, INC.
Box 311 • New Albany, Indiana

ANCHOR DIVISION, Stratton & Terstegge Co., Inc.
P.O. Box 311, New Albany, Indiana

Gentlemen: Please send complete information about an Anchor franchise in my territory.

NAME_____

ADDRESS_____

CITY_____ STATE_____

Course B: Five room house with utility to be designed for concrete slab perimeter heating; also piped crawl space design.

Course C: Large ranch house to be designed.

Course D: Four room house to be designed.

Course instruction and manuals are priced at $20. Those attending will be housed at Union Bldg. on campus. Anyone may attend evening meetings for $1.00 without registering.

The first night, April 9, has been named Indiana Sheet Metal Contractors' Night at which all members of the state association and sheet metal contractors are invited to a banquet.

Programs and full information may be secured by addressing: Merle M. McClure, Co-ordinator Adult Education, Technical Extension Division, Purdue University, Lafayette, Ind.

NPC quarterly Meeting held in Washington, D. C.

THE FIRST QUARTERLY MEETING of the National Petroleum Council, Washington, D. C., was held under the chairmanship of Walter S. Hallanan, in Washington, January 29.

"Many important studies are now underway by the committees of the Council," Mr. Hallanan said, "dealing with oil and gas availability, synthetic costs, petroleum truck transportation, underground storage, and patterns in the need for oil and gas country tubular goods by sizes, weights, and grades."

Panel Discussions highlight MPA Convention in St. Louis

THE MISSOURI Petroleum Association held its annual convention and trade exhibit at the Hotel Jefferson, St. Louis, Mo., February 4 through 6.

Numerous panel discussions on various subjects were held. List of panels and chairmen were as follows:

Credit—Fred Whiteley, Whiteley Oil Co., Columbia, Mo.

Routing trucks—William Jones, Airline Oil Co., Kennett, Mo.

Stock losses—Melvin Hall, Melvin Hall Oil Co., Noel, Mo.

Jobber selling—B. A. Brown, D. S. Caldwell Oil Co., Richland, Mo.

New ideas—Walter Hamburg, Milton Oil Co., St. Louis, Mo.

Other speakers at the convention were: J. Fenner Cunnins, Cumberland Oil Co., Nashville, Tenn.; L. T. White, Cities Service Oil Co., N. Y., N. Y. and Joseph F. Leopold, Dallas, Texas.

OHI seeks to Organize Speakers' Bureau service

A SPEAKERS' BUREAU SERVICE is being undertaken by Oil Heat Institute of America, N. Y., N. Y., to arrange for lecturers at Distribution Div. chapter meetings.

The bureau plans to book dates for these speakers, check engagements and act as a clearing house for the program between the Distribution Div. chapters and Manufacturer and Accessory Div. members.

Indiana Group stages two day Convention

THP 34TH ANNUAL CONVENTION of Sheet Metal & Warm Air Heating Contractors' Association of Indiana

Members of the Oil-Heat Industry...
invest in your future!

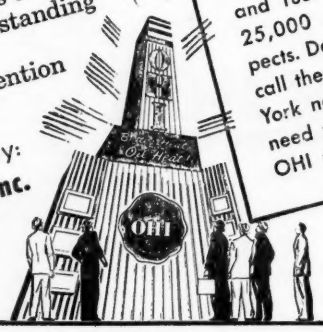
Attend the **29th ANNIVERSARY OIL-HEAT EXPOSITION** and
29th Annual Oil-Heat Institute of America Convention

see 1952-53 PRODUCTS! **hear** 1952-53 PLANS!

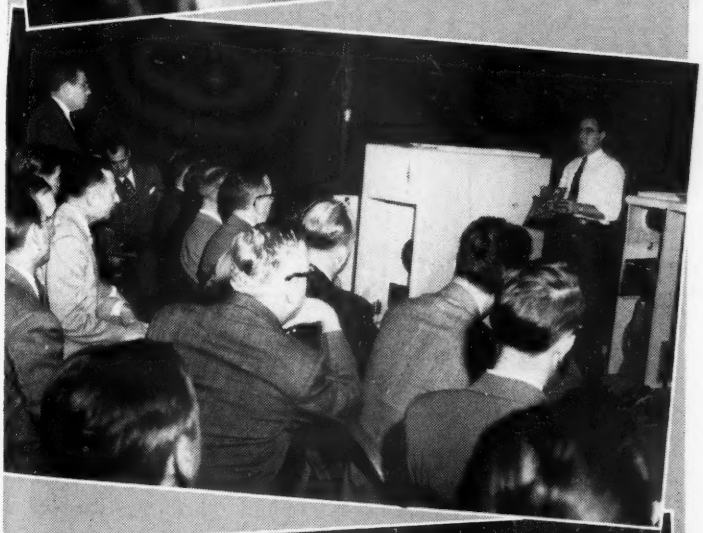
It's your best chance to make plans wisely for the profitable period ahead!
Don't miss the Exposition. And don't miss a single one of the Convention Sessions where outstanding authorities will discuss *your* future!
Avoid disappointment. Make your convention reservations now!

★
April 14 thru 18, 1952
Commercial Museum
Philadelphia, Pa.
★

Note to Exhibitors...
There is still some space left to present your product to 7,000 equipment and fuel oil dealers and 25,000 consumer prospects. Don't delay. Wire or call the OHI office in New York now. Remember, you need not be a member of OHI to exhibit.



WRITE • PHONE • WIRE • Sponsored by:
The Oil-Heat Institute of America, Inc.
6 E. 39th Street, New York 16, N.Y.
Murray Hill 5-1638



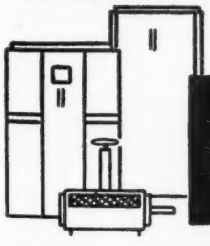
BETTER TRAINED to serve you BETTER!

York-Heat distributor salesmen from all sections of the country recently attended an intensive two-day merchandising and product training school—the sole purpose being to make them Better Helpers for automatic heating dealers.

Your York-Heat representative is prepared to help YOU, to show YOU how to make MORE money with the York-Heat Line. EXTRA profit opportunities for the dealer who signs his York-Heat franchise during the first quarter.

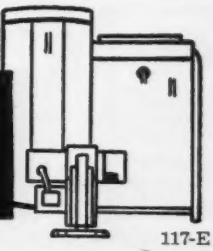
Get the details NOW.

Write Dept. 2, York-Shipley, Inc.
York, Pa.



A PRODUCT OF YORK-SHIPLEY, INC., YORK, PA.

YORK 4h HEAT



117-E

Oil and Gas-Fired Boiler Units, Winter Air Conditioners and Burners—Gas and Electric Water Heaters—Oil and/or Gas Fired Steampak Generators and Industrial Burners.

fueloil & oilheat

was held at the Hotel Severin, Indianapolis, Ind., February 7 and 8. Morning and afternoon panel discussions were held. Panel topics and chairmen were as follows:

Report on Purdue Heating School —T. Ben Speaker, member of WAH coference committee.

Thirty-six months missing in action —Clay Conner, Jr., Conner Insurance Agency.

The past looks at the future of warm air heating—Prof. W. T. Miller, Purdue University.

Controls—what we should do—Joe Wilder, executive secretary, Sheet Metal Contractors Natl Ass'n.

Future in our hands—Robert S. Schmieder, general sales manager, Inland Steel Products Co.

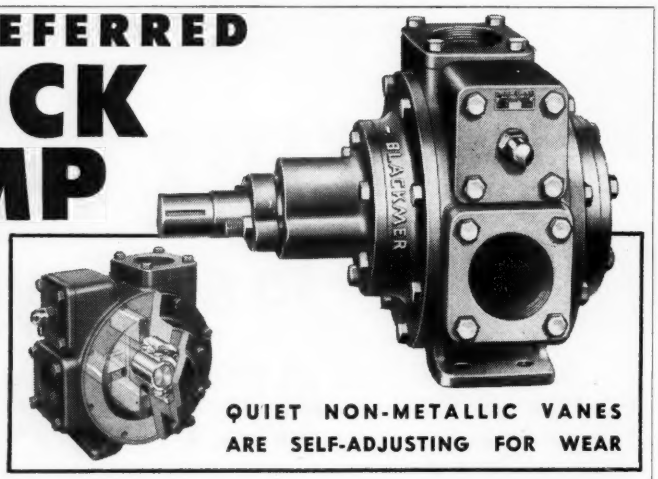
New approach to warm air heating —Guy Voorhees, NWA heating engineer.

Communism as it affects us—Donald Bruce, station WIRE, Indianapolis.

Use and fabrication of chromium stainless steel—Earnest M. Rains, Armco Shop News, Middletown, O.

THE PREFERRED
TRUCK
PUMP

TANK TRUCK OPERATORS PREFER BLACKMER'S PERFORMANCE



QUIET NON-METALLIC VANES ARE SELF-ADJUSTING FOR WEAR

BLACKMER
FACTORY REPRESENTATIVES
IN MAJOR CITIES
AND
SALES AND SERVICE JOBBERS EVERYWHERE
"READY TO SERVE"

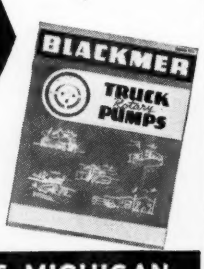
CALL YOUR BLACKMER REPRESENTATIVE

Superior performance backed by reliable service wins for Blackmer the approval of engineers and users.

Quiet operation, high capacity, compact design and rugged construction make Blackmer Truck Pumps a wise choice for you.

Sustained efficiency and long, trouble-free service help keep operating cost at a record low.

READ WHY OWNERS PREFER BLACKMER



Detailed design, construction, capacity and dimension data are listed in Bulletin TP3. Write for a copy and get the RIGHT PUMP FOR YOUR NEED.

BLACKMER PUMP COMPANY • GRAND RAPIDS, MICHIGAN

Geologist sees no Lag in oil-finding Ability

FRANK A. MORGAN, president of the American Association of Geologists and vice-president and manager of exploration, Richfield Oil Corp., has taken issue with a report recently prepared by the American Geological Institute that U. S. domestic oil production will be "past its peak" by 1975.

In a statement, reported in the January 11 *Oil Daily*, Mr. Morgan declared, "I can see no diminuation of our ability to find oil in the foreseeable future." He expressed confidence that the petroleum industry and exploration geologists will keep this country supplied with oil, although he explained oil exploration will become more difficult and expensive in the future.

These difficulties, he continued, will be offset largely by technological improvements resulting from research within the indutsry. Further, the need for geologists "will most certainly increase and we will need more exploration tools and equipment."

He stressed the fact that the people of the United States will insist on finding "the undiscovered reserves of oil which so evidently exist within our borders." Concluding, Mr. Morgan said, "I believe the point can be convincingly made by geologists that there remains enough oil to be discovered within the reach of the drill in the United States to last for generations to come."

Personnel named to API committees

ELEVEN COMMITTEES were named by the American Petroleum Institute, New York 20, N. Y., and the Division of Marketing, API, named three key committees, all to serve in 1952.

Thirty men were appointed to API's National Oil Policy committee. Included in this group were: Wiley H. Butler, Coastal Oil Co., Newark, N. J.; Robert H. Colley, Atlantic Refining Co., Philadelphia, Pa.; R. G. Dunlop, Sun Oil Co., Philadelphia, Pa.; Walter S. Hallanan, Plymouth Oil Co., Pittsburgh, Pa.; Eugene Holman, Standard Oil Co. (N. J.), New York, N. Y.; B. Brewster Jennings, Socony-Vacuum Oil Co., New York, N. Y.; Alton

Shell Fuel Oil with FOA-5X

"...is important to us both cost-wise and in customer satisfaction."

J. M. Steinhardt, Inc.
340-44 Central Avenue
Albany 5, New York

J.M.STEINHARDT, INC.

AUTOMATIC HEATING • AIR CONDITIONING • REFRIGERATION — Carrier AIR CONDITIONING — DELCO-HEAT — FUEL OIL

340-44 CENTRAL AVENUE
ALBANY 5, NEW YORK
TELEPHONE 5-3456

Shell Oil Company
1066 Madison Avenue
Albany, New York

Gentlemen:

After two years experience with Shell Fuel Oil containing FOA-5X, our records indicate remarkable results.

In former years, our service department was flooded with service calls in March and April to correct plugged nozzles and clogged strainers. Now these calls have been virtually eliminated.

During summer clean-ups our service men report the year-old oil filters of our customers so clean they scarcely need replacing.

Reduced service calls are important to us both cost-wise and in customer satisfaction.

Very truly yours,
J. M. Steinhardt, Inc.

F. J. Steinhardt
Vice President

What more can we say?

For two years dealers in every area have been using practically the same words to tell us how Shell Fuel Oil with FOA-5X has reduced their service costs . . . has brought them new customers . . . has increased their profits.

These are a few of the many advantages accruing to dealers who sell Shell Fuel Oil with FOA-5X.

SHELL

SHELL FUEL OIL *with* FOA-5X

Jones, Cities Service Co., New York, N. Y.; Sidney A. Swensrud, Gulf Oil Corp., Pittsburgh, Pa., and R. E. Wilson, Standard Oil Co. (Indiana), Chicago, Ill.

The committee on Development of a Service Program for Marketers, appointed by the API Division of Marketing, lists 31 men. Among those named to this committee were: Chairman, B. L. Majewski, Great American Oil Co., Chicago, Ill.; C. H. Arnold, Northwest Petroleum Ass'n., Fargo, N. D.; R. M. Bartlett, Gulf Oil Corp., Pittsburgh, Pa.; W. C. Burns, Hartol Petroleum Corp., New York, N. Y.; T. A. Crawford, Oil-Heat Institute of America, New York, N. Y.; John Harper, Harper Oil Co., Long Island City, N. Y.; Harry B. Hilts, Atlantic Coast Oil Conference, Inc., New York, N. Y.; Carl R. Jonswold, Arrow Petroleum Co., Forest Park, Ill.; W. F. Schierholz, Fuel Oil Co. of St. Louis, St. Louis, Mo., and Roy A. Thompson, Apex Motor Fuel Co., Chicago, Ill.

Two Changes made in Indoor Comfort Conferences

TWO CHANGES in school dates were announced by the National Warm Air Heating & Air Conditioning Association, Cleveland 14, Ohio, in the schedule for its Indoor Comfort Conference. The school originally planned to be held in Boston on January 17 and 18 has been changed to April 14 and 15 and the Dallas, Texas class has been postponed from February 21 and 22 to March 12 and 13.

Many schools in the various states have already been held. A list of conference dates yet to be held, along with cities and chairmen, are as follows:

Feb. 14 & 15: Omaha, Nebr., L. C. Norton, A. Y. McDonald Mfg. Co.

Feb. 18 & 19: Kansas City, Mo., Dan L. Fennell, Jr., Security Mfg. Co.

Feb. 25 & 26: Houston, Tex., D. M. Mills, F. J. Evans Eng. Co.

Feb. 29 & March 1: Little Rock, Ark., J. L. Brown, Terminal Warehouse Bldg.

March 3 & 4: St. Louis, Mo., W. L. Dulle, E. E. Souther Iron Co.

March 6 & 7: South Bend, Ind., Dick Young, Young Heating Supply, Inc.

March 12 & 13: Dallas, Tex., W. A. Catlett, Catlett Engineers.

March 17 & 18: Birmingham, Ala., G. F. Wheelock, G. F. Wheelock Co.

March 20 & 21: Charlotte, N. C., Bruce O. Leister, Metal Service Corp.

March 24 & 25: Roanoke, Va., Chas. S. Frost, director, Dept. of Air Pollution.

March 31 & Apr. 1: Duluth, Minn., J. P. Nelson, Kelley-How-Thomson Co.

Apr. 4 & 5: Denver, Colo., J. H. Singleton, C. A. Crosta, Inc.

Apr. 7 & 8: Salina, Kan., Jim McKim, Salina Supply Co.

Apr. 14 & 15: Boston, Mass., Thomas F. Donahue, Herrick Co.

Apr. 17 & 18: Binghamton, N. Y., J. D. Bensley, Chas. Millar & Son.

Apr. 24 & 25: Cleveland, O., Ed Wettrick, Stevens Supply.

Apr. 28 & 29: Toledo, O., A. K. Anderson, Anderson Supply Co.

Oilburner service managers Group re-elects Officers

AN ELECTION WAS HELD by Metropolitan Oil Burner Service Managers Group, Watertown 72, Mass., an association for the betterment of oilburner

HOW ABOUT THAT?
MEADOWS... SHOW THE GENTLEMEN TO THE BASEMENT SO THEY CAN REPAIR OUR OIL HEATING EQUIPMENT!
VEDDY GOOD, M'AM! THIS WAY PLEASE!
WOW! WOTTA' CLASSY JOINT! THEY MUST BE BILLIONAIRES!
I CAN'T WAIT TO SEE THEIR DELUXE OIL HEATING OUTFIT! I'LL BET IT'S MADE OF SOLID GOLD!
YOU MEAN THAT PILE OF JUNK IS THE OIL HEATING EQUIPMENT OF THIS 36 ROOM HOUSE?? NOW I'VE SEEN EVERYTHING! WHY THE WHOLE LAYOUT AIN'T WORTH A PLUG NICKEL!!
HOLY CATS! THEY CAN'T EVEN TAKE ONE BATH A WEEK WITH THAT CRUMMY OUTFIT! IT LOOKS READY TO CAVE IN ANY SECOND!!
I SAY, MY GOOD FELLOWS... WE HAVE FOUND IT QUITE SATISFACTORY!! RATHER TOPPING, AS A MATTER OF FACT! PROBABLY REQUIRES A MINOR ADJUSTMENT... BUT NOTHING SERIOUS, I DARESAY!
SEND IN YOUR CARTOON IDEA FOR ILLUSTRATION! YOU WILL RECEIVE CREDIT AND THE ORIGINAL DRAWING!

"The man of the house isn't always my best prospect"

Says Frank Brennan, Cleveland, Ohio, Honeywell Dealer

Dealer Frank Brennan talking to Honeywell representative Ken Dight

"I take my Time-O-Stat story to the *lady* of the house. From years of experience, I've found it pays off in sales. She may be deadlier than the male in some respects—but when it comes to *comfort,* I've found she's a lot more apt to listen to my story and be more interested in what I have to say.

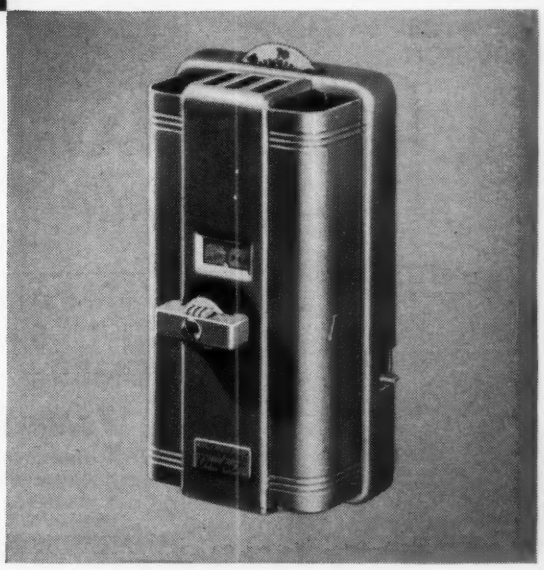
"Her opinions carry a lot of weight, too, in making decisions around the house. And then, she's always easier to see—she's home when I come out to call, while friend husband is generally out making a living.

"I begin my sales talk by outlining the advantages a Time-O-Stat can give her and her family, as compared to her old, manually operated thermostat. I tell her about the night set-back and *automatic* morning pick-up feature, which means her family can wake up to a nice warm house—then have an even, healthy flow of heat all day long. These are all mighty important things to a woman.

"To close the sale, I point out how little a new Time-O-Stat costs—and how simple and speedy it is to hook up. If she *still* isn't convinced, I tell her I'll put one in, free of charge, on a trial basis. That never fails!"

HONEYWELL

Another Plus Profit Idea From Honeywell!



Sell the famous Honeywell Time-O-Stat!

Day-night control with automatic morning pick-up distinguishes the Honeywell Time-O-Stat from ordinary thermostats. And this feature offers you a mighty important profit opportunity, since a recent survey showed that 3 out of every 4 people with thermostats raise and lower temperature settings in their homes every day, *by hand!* The Time-O-Stat is available in warmer climates with a positive shut-off switch.

For complete information and application data on the Time-O-Stat, as well as other Honeywell controls, write today to the Minneapolis-Honeywell Regulator Company, Dept. FH-2-48, Minneapolis 8, Minnesota.

MINNEAPOLIS **Honeywell**

First in Controls

fueloil & oilheat

service within the oil industry, and Hugh W. McKee, Mass. Wharf Coal Co., was re-elected chairman and William H. Wildes, Buckley & Scott Utilities, Inc., was re-elected secretary.

The group covers all of Boston and its suburbs and accepts applications for membership from any area within commuting distance. It was organized two years ago, being modeled after a similar group in Philadelphia, Pa.

Oil reserves grow as NPA counsel scoffs "run out"

REFUTING MANY CLAIMS that the United States is "running out of oil," Russell B. Brown, Washington, D. C., general counsel for the National Petroleum Association of America, told the National Council of Farmer Cooperatives that this nation need never fear a lack of crude petroleum supplies. Mr. Brown pointed out that discovered reserves of crude petroleum today stand at an all-time high of 31 billion barrels.

"This increase has been accomplished by drilling more and more wells," he said. "Even though one-third of these wells were failures, the successful ones have continued to add to the total productive capacity."

Mr. Brown concluded by saying that oil prices were relatively low compared to other prices, that industry profits have been moderate and oil tax payments represent a larger share of the sales dollar than the average of all industries.

Northwest Petroleum Assn. elects Officers

CHARLES H. ARNOLD, Haggart's Service, Fargo, N. D., was re-elected president, Northwest Petroleum Association, Minneapolis, Minn., at their annual convention. Myles Hall, Como Oil Co., Duluth, Minn., was elected vice-president and H. F. Horning was renamed secretary.

The association elected directors as follows: Minnesota: C. A. Nelson, Mankato; Lloyd Penrose, Parkers Prairie; Lloyd Engstrand, Alexandria, and John Kuether, Milaca. North Dakota: A. E. Monroe, Rolla; Durt Olson, Valley City and Carl Heidsten, Grafton.

"Display Your Business," Brochure prepared by API

A BROCHURE entitled, "Display Your Business," listing 100 ideas to assist oilmen in the construction and effective display of dramatic, inexpensive exhibits to explain their business activities, has been prepared by the Oil Industry Information Committee, American Petroleum Institute, N. Y. 20, N. Y.

Layouts, suggested copy, construction details, and methods of adapting 18 different exhibits designed to fit within a standard 10-foot booth at a fair, convention, open house or similar place, are analyzed in the 32-page booklet.

Single copies may be obtained, without charge, by writing the Committee's national office in New York or one of its district offices located throughout the United States.

Famous research Chemist speaks at luncheon meeting

DR. GUSTAV EGLOFF, research chemist and director, Universal Oil Co., spoke

TWO FOR '52!

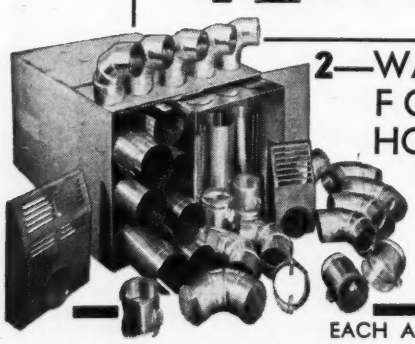
2 (All-In-One) PACKAGES

1—HOT WATER HEAT FOR ANY SIZE JOB . . .

floor level

HOT WATER BASEBOARD RADIATION . . .

GENERAL Automatic



2—WARM AIR HEAT FOR SMALL HOMES

Temp-RD-Air

featuring new type diffuser

WRITE FOR PROFIT-BUILDING SPECS. . . .

EACH A COMPLETE PACKAGE!

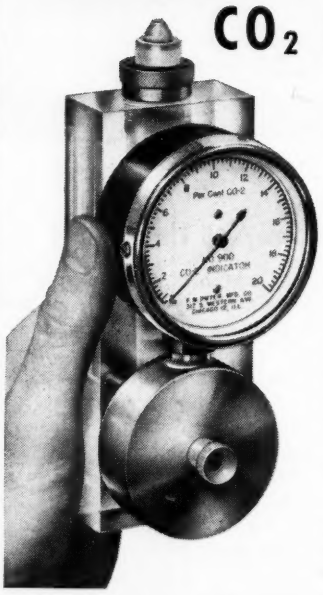
GENERAL AUTOMATIC PRODUCTS CORP.

2300 Sinclair Lane Baltimore 13, Md.

Only 20 Seconds for a Complete Test!

The NEW DWYER TRANSPARENT

CO_2 INDICATOR



The Dwyer #900 is a really new CO_2 Indicator that assures greater efficiency and accuracy in operation. It actually takes but 20 seconds to make a complete test—and you can make over 500 tests per refill. Body is fabricated from a transparent solid "lucite" bar, making it practically unbreakable. Open-faced dial is easy to read. Furnished with a circular efficiency slide rule. Available in heavy metal case with provision for stack thermometer, draft gage and smoke tester

Also manufacturers of Draft Gages, Smoke Detectors, Manometers, Pitot Tubes, etc

F. W. Dwyer Mfg. Co.

315 South Western Ave., Chicago 12, Illinois

on the subject, "The Modern Oil Industry," at the regular monthly luncheon meeting of the Oil Men's Club of Kansas City, Kansas City, Mo., held at the Hotel President, January 21. Dr. Egloff has studied petroleum refining processes for thirty-five years and has invented new ones, holding hundreds of patents.

ADI Catalogs standardizes Fittings in reference Manual

A 16-PAGE REFERENCE MANUAL, which clarifies identification problems concerning 104 standardized fittings most used in warm air heating and air conditioning installations, has been published by Air Distribution Institute, Cleveland 15, Ohio, based on data supplied by its 21 member manufacturers. The manual illustrates and names each fitting in accordance with the listing of the National Bureau of Standards, U. S. Dept. of Commerce. Each fitting listed is given the individual manufacturer's number.

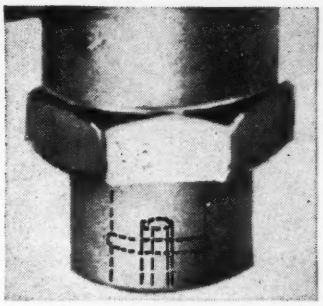
The booklet contains a two-page chart illustrating complete parts layouts for round and rectangular branch reduction systems, extended plenum system, and gravity warm air system. Every fitting in these system layouts is key numbered to aid in identifying desired parts and to simplify making up bills of material for specific installations. New fittings used in perimeter systems in basementless homes are also listed.

Copies may be obtained on request from the Air Distribution Institute, 2130 Keith Bldg., Cleveland 15, Ohio.

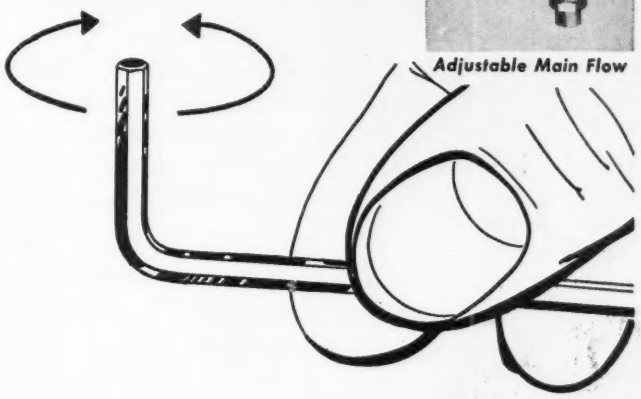
ASHVE Chapter hears of new Trend in Industry

"THE INDUSTRY CAN LOOK FORWARD to a notable change in the design of air conditioning systems in the next 10 to 15 years because of economic savings," R. D. Tutt, chief engineer, Tuttle and Bailey, said in a speech before the Illinois chapter, American Society of Heating & Ventilating Engineers, Chicago 2, Ill., January 15. He said that the use of high pressure, i.e,, high velocity, air distribution systems will become increasingly popular.

Mr. Tutt, formerly chief engineer, Allison Div., General Motors Corp.,



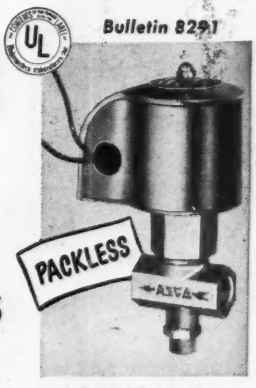
Adjustable Main Flow



Adjustable

Oil Burner

Automatic Valves



Adjustable By-Pass

The Main Flow adjustment in Bulletin 8281 Valve permits the operator to regulate the flow of oil through the valve when it is open. It's a "regulating" as well as a "Shut-Off" Valve. When de-energized, it closes fully, shutting off the flow completely. It is Factory Mutual Approved.

The By-Pass adjustment in Bulletin 8291 Valve permits a "high or low" flame operation. In other words, the amount of flow can be controlled for full flow or by-pass flow automatically by instrument. It is not a Shut-Off Valve, however, since it does not close completely.

These two ASCO Control Valves are for special cases. Both come in ⅜ and ½ inch pipe size. Both are suitable for gas, light oil, heavy oil (No. 4, 5, 6 and Bunker C) air, water and other non-corrosive fluids at temperatures up to 212° F.

We have other types of Automatic Solenoid Valves for Shut-Off and other purposes not only in the restricted flow types, as these two valves, but in the full flow class. If you will tell us about your automatic control problems, we shall be glad to recommend the proper type.

ASCO Solenoid VALVES

When in need of Automatic Transfer Switches, Remote Control Switches, Contactors, Relays, and Specialized Electromagnetic Controls, come to us.

Automatic Switch Co.

385-F LAKESIDE AVENUE • ORANGE, NEW JERSEY

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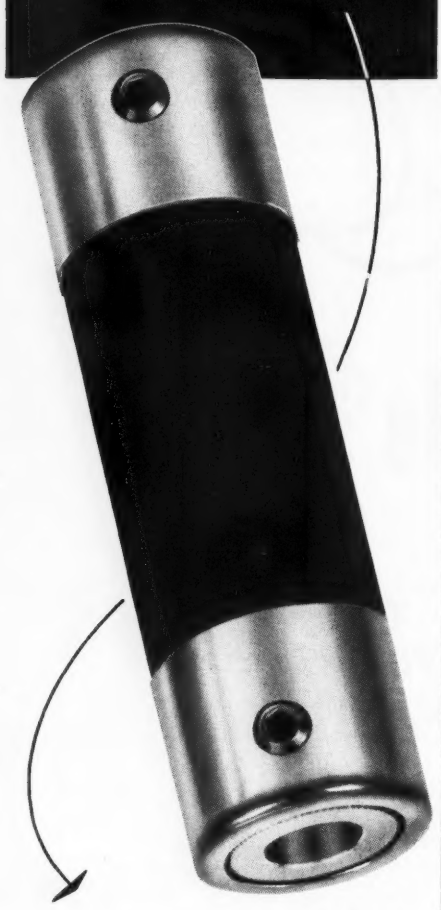
THE ONLY ONE-PIECE RUBBER FLEXIBLE COUPLING



with FLOATING BUSHINGS

MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Our 25th Year

FLEXIBLE COUPLING MFG. CO.
8145 South Dobson Avenue
Chicago 19, Illinois

and currently a member of ASHVE's technical advisory committee on air distribution, said that the chief interest in the newer system is centered on considerations of relatively low ductwork and furring ceiling costs and in some cases, the possibility of reducing building heights by the equivalent of one or more floors, space savings being accomplished by reductions in space requirements for ducts.

In closing, Mr. Tutt warned that high velocities are not the answer to all air distribution systems and stated that each job should be considered and analyzed as an individual problem.

Esmay named acting Director of OIIC

EDWIN W. ESMAY, Standard Oil Co. (N. J.), has been appointed acting executive director of the Oil Industry Information Committee. He will serve during the leave of absence of Rear Admiral Harold B. Miller, USN (Ret.), who has been elected president of the National Committee for a Free Europe. Esmay's appointment, which becomes effective on March 1, includes designation also as acting director of the American Petroleum Institute's Department of Information.

Esmay currently is industry liaison representative in the public relations department of Standard and is to be granted a leave of absence to carry on the OIIC duties. He was associate editor of *Fueloil Journal* from 1933 to 1937, at which time he joined the staff of the API and acted as acting director of information in 1939 and 1940. From 1941 to 1943 he was publicity assistant to the chairman, Petroleum Industry War Council in Washington and public relations director, District 1, PAW, for a short period. After Naval service between 1943 and 1945, he joined Standard Oil Co. (N. J.) in 1946.

Kentucky group holds Silver jubilee convention

A SILVER JUBILEE CONVENTION of the Kentucky Petroleum Marketers Association was held last month. As part of the activities, L. T. White, chairman, Oil Industries Educational Commission, who is working with the N. Y. City Board of Education to establish oilheating classes in public schools, spoke and participated in a panel discussion on education.

Burning Oil Distributors of Chicago elect Officers

AT ITS ANNUAL MEETING, Burning Oil Distributors, Chicago 11, Ill., elected officers and directors for the coming year.

C. R. Jonswold, Arrow Petroleum Co., was elected President. Other officers chosen were: Vice-president, J. K. Curran, Suburban Oil Co.; Treasurer, L. L. Schurman, Consumers Petroleum Co.; Corporate Secretary, J. E. Guilbault, South Side Petroleum Co.

Only three of the seven man Board of Directors were up for election this year. Winning candidates were: R. F. Doepel, Braun Bros. Oil Co.; L. P. Gollerstepper, Petroleum Heat & Power Co. and R. J. Thompson, Apex Motor Fuel Co.

North Carolina Jobbers hold annual Meeting, name Officers

THE ANNUAL MEETING of the North Carolina Jobbers Association, Raleigh, N. C., was held on January 16 at the Sir Walter Hotel in Raleigh. Jobber and consignment distributor groups met separately during the morning and then met for luncheon. John Harper, chairman, National Oil Jobbers Council, was the principal speaker.

Directors elected for the two-year term were: C. M. Barringer, S. D. Bryan, J. K. Glenn, O. T. Kirkland, G. E. Maultsby, T. W. McCracken, and S. D. Wooten; elected for a one-year term were: Bruce B. Cameron, R. G. Hayes and H. S. Kimrey. The outgoing president, Roby Taylor, automatically becomes a director.

Elected to executive offices were: President, Sterling D. Wooten, Thompson-Wooten Oil Co., Goldsboro; 1st Vice-president, Forest C. Roberts, Acme Petroleum and Fuel Co., Gastonia; 2nd Vice-president, G. E. Maultsby, Maultsby Oil Co., Jacksonville. Re-elected were: Executive Secretary, W. A. Parker, Raleigh and Treasurer, S. D. Bryan, Bryan-Cooper Oil Co., Raleigh.

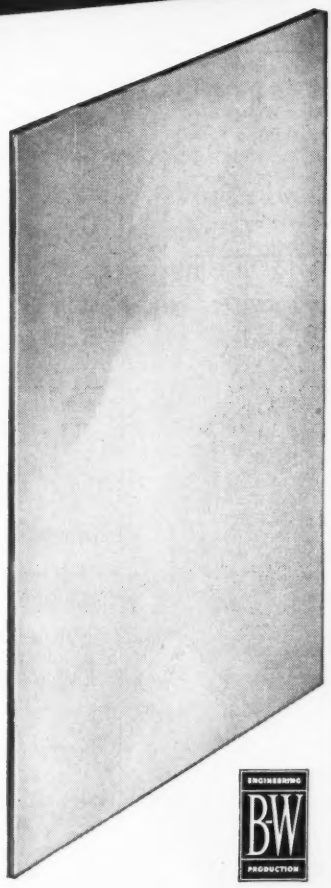
Ingersoll

HEAT-RESISTANT STAINLESS STEELS GIVE ALL FOUR!

-when used for Combustion Chambers

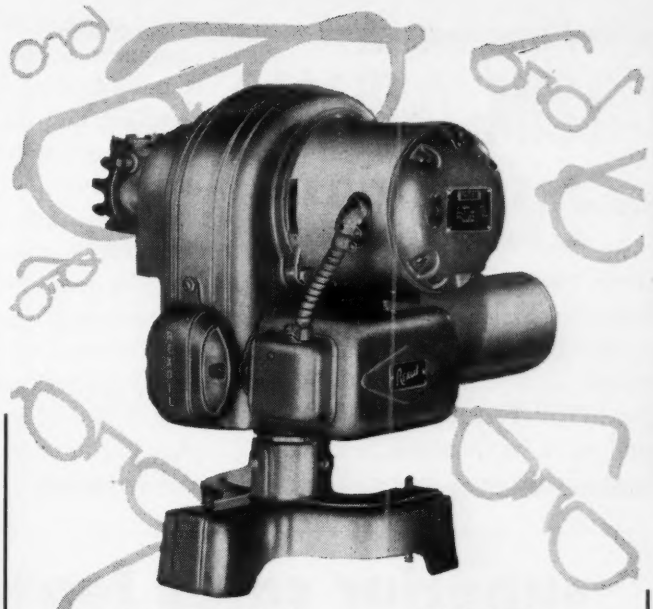
1. MORE QUIET BURNER OPERATION
2. CLEANER HEAT
3. BETTER TEMPERATURE CONTROL
4. CONSIDERABLE SAVINGS ON FUEL COSTS

If you are using or contemplating the use of heat-resistant stainless steels for combustion chambers for oil burner furnaces, we are specialists in producing these types of steels. Whether you are a large or small user of these steels our steel making facilities can offer exceptional service by especially shearing to your specified combustion chamber steel blanks, or multiples thereof. Write us for additional information.



ENGINEERING B&W PRODUCTION

Ingersoll STEEL DIVISION
BORG-WARNER CORPORATION
310 South Michigan Avenue, Chicago 4, Illinois
Plant: New Castle, Indiana



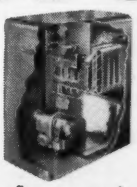
NOW...SEE HOW TO REDUCE COSTLY OIL BURNER SERVICE CALLS

TRY THIS PLAN Install *ONE* **REXOIL** . . . and *see for yourself what real oil burner value it is. SEE how* it cuts costly service calls . . . *SEE how* much it saves on installation costs . . . *SEE how* happy your customer is with **REXOIL's** economy, its quiet, quick heat, and its efficiency . . . *SEE how your profits will climb.* Yes, **REXOIL** offers all these, and more. But the only common sense method for you to make sure of these facts is *to try one* ***REXOIL*** *for yourself.* Order just one burner, try it and prove its dependability for yourself.

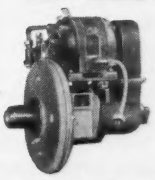
WRITE TODAY . . . ORDER ONE REXOIL

REXOIL

Residential, Commercial and Industrial Oil Burners for #2 oil



Furnace and Boiler Units



Horizontal Rotary Oil Burner for Heavy Oils

REIF-REXOIL, INC.
37 CARROLL STREET BUFFALO, N. Y.

Manufacturers' Activities

Renick & Mahoney moving to new Site on March 1

AFTER 25 YEARS at 114 Liberty St., Renick & Mahoney, Inc. is moving on March 1 to larger and more convenient headquarters at 380 Second Ave., New York, N. Y. Eight thousand sq. ft. of space will be occupied on the first floor of the building, providing ample space for general offices, equipment display rooms and warehouse facilities. August Schramm, president, said the move will mark a new era of growth and progress for the company.

Conveniences to be featured at the new location include two truck loading and unloading bays. The new quarters, also, are situated to provide better access from within Manhattan and all approaches to New York City. Renick & Mahoney handles a complete line of oil marketing equipment and accessories.

superior sales features of H.C. Little oil burning winter air conditioning furnaces

make selling easy because they provide the most luxurious, whole-house heat at low cost!

100% AUTOMATIC OPERATION

Patented H. C. Little Burner lights itself electrically, regulates itself—has no pilot light to waste fuel, no high voltage spark to cause radio or television interference.

PROGRESSIVE LOW-TEMPERATURE CARBURETION

Only H. C. Little burners have it! Produces high heat output without "cracking" fuel oil—leaves no soot or hard carbon deposits (house furnishings stay cleaner!). A SPECIAL HEAT CONTROL permits burning lowest cost furnace oils, including *catalytic oil!*

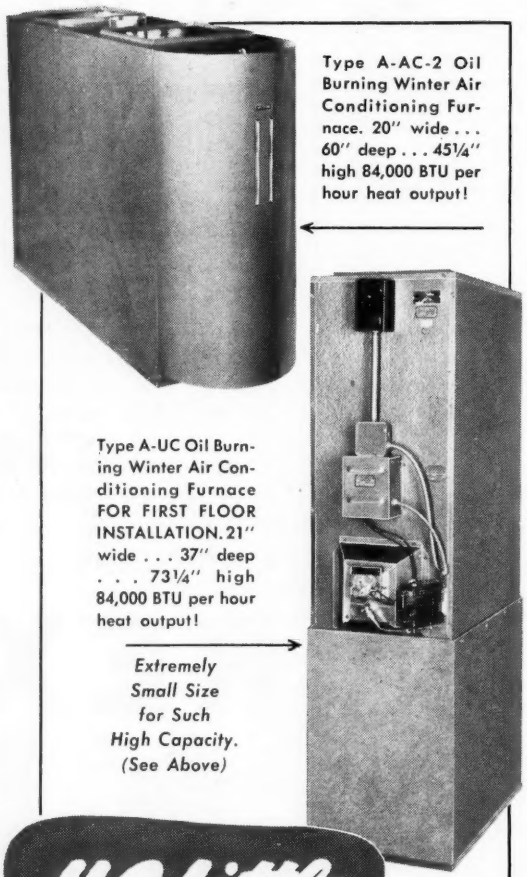
QUIET VAPORIZING BURNER

Fuel oil is gravity-fed—no pressure orifices to clog, no "blow torch roar"—no moving parts of any kind to make noise!

PLUS LARGE MULTIVANE BLOWER and TWIN AIR FILTERS that remove all dust and pollen from the air stream.

TESTED AND LISTED BY UNDERWRITERS' LABORATORIES

WRITE FOR SPECIFICATIONS AND DETAILS OF SALES PLAN



Type A-AC-2 Oil Burning Winter Air Conditioning Furnace. 20" wide . . . 60" deep . . . 45¼" high 84,000 BTU per hour heat output!

Type A-UC Oil Burning Winter Air Conditioning Furnace FOR FIRST FLOOR INSTALLATION. 21" wide . . . 37" deep . . . 73¼" high 84,000 BTU per hour heat output!

Extremely Small Size for Such High Capacity. (See Above)

H.C. Little Burner Company, Inc.

Head Office: San Rafael, Calif.

Factory Representatives in 16 Principal Cities

Fluid Heat buys Ko-Z-Aire, Inc.

PURCHASE of the land, building, name and inventory of Ko-Z-Aire, Inc., Red Oak, Ia., has been completed by Anchor Post Products, Inc., Baltimore, Md. W. F. Brannan, president of Anchor Post, explained that the purchase was made as a needed part of the expansion of the company's automatic heating division. Anchor Post, in business since 1928, has concentrated its efforts in the East, but, Mr. Brannan continued, "In recent years we have found ourselves at a disadvantage endeavoring to develop and expand our sales in the Mid-West due to freight differences and facilities at Baltimore being used to capacity."

Ko-Z-Aire, whose acquisition will relieve this situation, is to be operated as a wholly-owned subsidiary under the name Ko-Z-Aire Products, Inc. C. W. Burton, executive vice-president of Anchor Post, will supervise over-all management and D. Grey Knowles, Baltimore, Md., is to be sales manager, assisted by Richard T. Demarest, located at Red Oak. All key personnel at Ko-Z-Aire who wish to remain will be retained in the new operation.

General Refractories to complete Expansion in 1952

THE EXPANSION PROGRAM of General Refractories Co., Philadelphia, Pa., started in 1949, is expected to be completed in 1952 at an estimated cost of $13,500,000. Floyd L. Greene, president, said that many of the company's 23 plants are being modernized and others are being expanded.

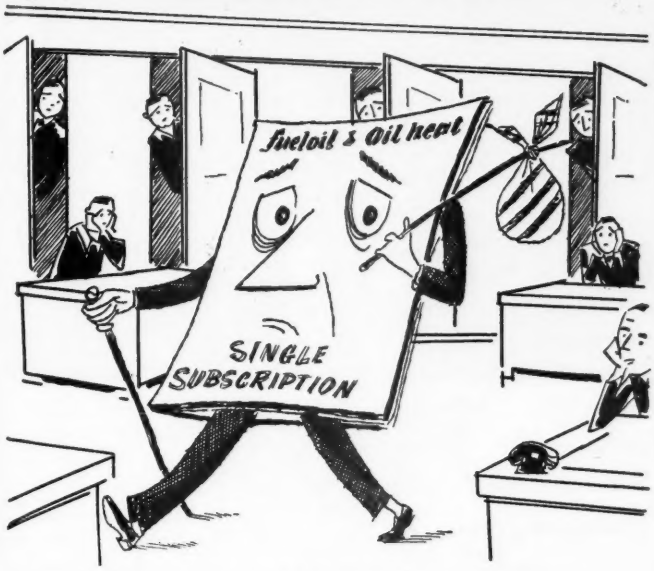
New plants are under construction in Warren, O.; Los Angeles, Calif. and in Morrisville, Pa., near the new Fairless Works of U. S. Steel Corp.

C. E. Squires Co. acquires assets of Mouat Vapor Co.

C. E. SQUIRES CO., Cleveland 10, O., has acquired the assets and equipment, Mouat Vapor Heating Co., Cleveland.

Mouat heating specialties, including radiator traps, air vents, and boiler cleaner compound, will be manufactured and merchandised through the Squires Co.

HOW LONG DOES IT TAKE *fueloil & oil heat* TO GET AROUND YOUR OFFICE?



AN EXTRA SUBSCRIPTION IS YOUR SOLUTION

You don't have to wait weeks before you can read the single copy of FUEL-OIL & OIL HEAT to reach you when you can order your own subscription for less than 1¢ a day. If you are now reading somebody else's copy of FUEL-OIL & OIL HEAT that's the only solution to your problem.

HEATING PUBLISHERS, Inc.
232 Madison Ave., New York 16, N. Y.

SUBSCRIPTION BLANK

HEATING PUBLISHERS, INC.
232 Madison Ave.
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Kindly enter our subscription to FUEL-OIL & OIL HEAT.

☐ 3 yrs. $7.00 ☐ 2 yrs. $5.00
☐ 1 yr. $3.00

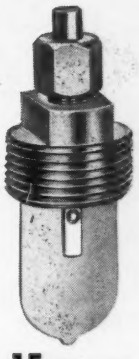
Enclosed is check for this subscription $.....

Your Name .....
Firm .....
Position .....
Address .....
City .....State.....
Business Classification .....

New! MAID-O'-MIST BALANCING VALVE ADAPTER UNITS

Make any copper, bronze or cast iron tee a balancing valve!

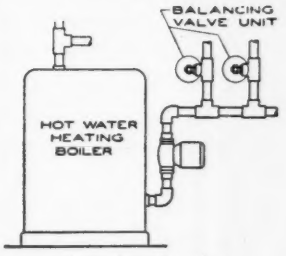
No. 14 Balancing Valve Adapter Unit for ⅜", ½", ¾", 1" nominal copper or bronze tees.



No. 15 Balancing Valve Adapter Unit for ½", ¾", 1" or 1¼" cast iron tees.

Eliminate costly stocks of square head cocks and balancing valves. These new units are quickly soldered, sweat-fitted or threaded into tees. No restriction of hot water flow except for balancing needs.

JUST A FEW OF THEIR MANY USES



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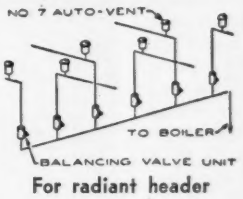

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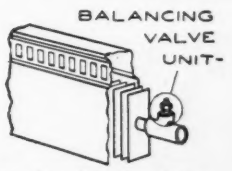
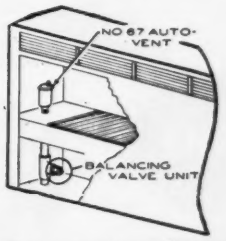


For baseboard radiators



For convector radiators

Prompt delivery from your jobber, or write direct.

MAID-O'-MIST INC.

3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

5 WAYS BETTER

Guardian

FLEXIBLE COUPLINGS

New Extruded Splined Type Guardian Flexible Coupling

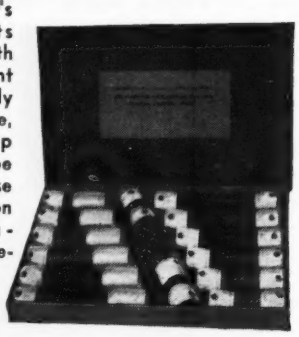
Regular set screw type

- EASILY INSTALLED
- MORE RUGGED
- TROUBLE FREE
- CLOSEST TOLERANCE
- QUIET OPERATION

You'll see why there is such a growing demand for Guardian flexible couplings when you use them on your first installation. The new extruded splined type can be installed easily in nothing flat. It fits to close .001 inch tolerance. Ruggedly constructed and specially treated to resist oil, Guardian couplings give the utmost in trouble-free performance. A variety of standard sizes or to your specifications.

GET THIS CONVENIENT COMPLETE SERVICE KIT

97% of today's requirements can be met with the assortment in this handy kit. Get one, use it and keep it filled to be ready for those extra profits on flexible coupling replacements.



MEMBER OHI OIL HEAT INSTITUTE OF AMERICA

Puta GUARDIAN Here YOUR UNIT

Guardian PRODUCTS CORP.
COUPLING DIVISION

Dept. F-22, 1215 East Second Street

Michigan City, Indiana

A special gun burner *training program has been developed by Coleman Co. for its distributors who, in turn, will instruct their dealers. A factory-trained specialist, J. R. MacDowell (left), is demonstrating with a new furnace equipped with a gun-type burner to R. I. McConachie, Paul Ruble, and William Bierley, three managers for Coleman distributors.*

Coleman trains Dealers as gun burner Line is added

A "SHORT COURSE" training program on the gun burner has been developed by Coleman Co., Wichita, Kans., as an educational project to train its 8,000-dealer organization in the use of a continuous-ignition gun burner used in two new forced warm air furnaces Coleman has recently added to its line. Previously, its oilburning appliances were equipped exclusively with natural draft, vaporizing pot-type burners.

The purpose of the program is to teach service men the installation and adjustment of the gun burner. The training program, developed by J. D. Eckles, national service manager, is divided into two sections.

First, is the training of distributors by Coleman specialists. The distributors, in turn, carry out the second step by familiarizing their dealers in the operation of the new unit.

"The presentation goes beyond a technical how-to-do-it lesson," Mr. Eckles said in describing the short course, "as many of the dealers are experienced only with the pot-type burner. A film has been prepared showing the fundamental difference between burning fuel in a natural draft, vaporizing burner and a gun burner. It is against this back-drop that the how-to-do-it lesson unfolds. For the dealer who has been working with conversion burners and the complications of installing them, the aim here is to teach the simplicity of the new gun burner."

House organ started by R. E. Michel Co.

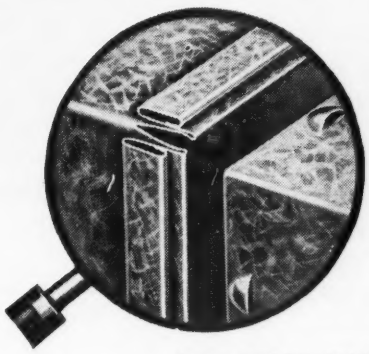
THE CUSTOMERS of R. E. Michel Co., Baltimore 2, Maryland, received last month their first copy of *Michel's Burner Flashes*, a four-page house organ or service letter which editor Conrad Schafran says, "is designed to pass along news, views, and information to help with servicing problems."

The magazine features a column called, "Control Tips," to aid in problems encountered in servicing controls; also a column called, "Straight from the Firebox," where readers are invited to send in information they would like to pass on to others. A copy of "Installing the Domestic Oil Burner," a 64-page booklet on oilburner installation, published by FUELOIL & OIL HEAT, is sent to those whose letters are used.

ADELTA
takes the Work out of DUCTWORK!

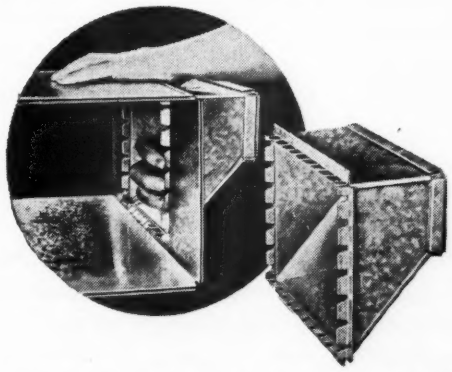
ADELTA warm air systems have been redesigned from plenum to register... bringing you many *exclusive* fittings and *time-saving* features like those illustrated. And since ADELTA ducts and fittings cost no more than old-type units, your faster installation time means bigger profits.

Investigate the ADELTA line today! Send for our illustrated catalog, showing the complete line of standardized ducts, pipes and fittings. No obligation.



ONE-PIECE SNAP-LOCK CLEAT WITH THE TAPERED LEADING EDGE

...is an exclusive feature on all ADELTA Stack, Trunk and Fittings. You just push two sections together, and presto!—you have a rigid, leakproof joint... without any drilling, notching or crimping to slow up the job. Cleat can't get lost in shipment or on the job because it's formed from the same sheet as the fitting.



NEW PRE-NOTCHED COLLAR EDGES

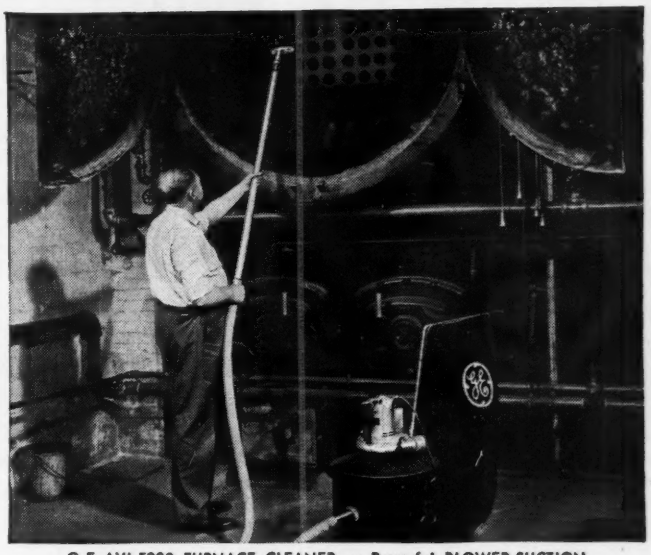
...save time on every collar edge connection because they're easily closed by finger pressure. No need for the installer to notch the edges, straighten them with pliers, and hammer them closed. Notches are die-cut in a U-shape, and corners are rounded to prevent finger injury. Provided on all 4 sides of fittings with collars—at no extra cost.

NATIONAL WARM AIR HEATING AND AIR CONDITIONING ASSOCIATION — INDOOR COMFORT

AIR DISTRIBUTION INSTITUTE — ADI STANDARDIZED FITTINGS

ADELTA
MANUFACTURING COMPANY, INC.
2101 Ellsworth Street • Philadelphia 46, Penna.

Here's Modern Equipment to
MAKE FURNACE-CLEANING CALLS
PAY OFF!

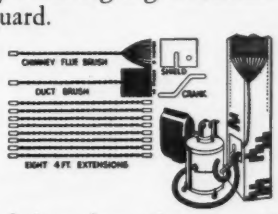


G-E AVI-F908 FURNACE CLEANER, a Powerful BLOWER-SUCTION Machine—engineered to do the job Quickly, Thoroughly and at Low Cost

This easy-to-handle, high-vacuum cleaner (1 full h. p. AC-DC; weight only 51 lbs.) makes a hit with clean-up crews . . . steps up their productiveness . . . leaves boilers and cellars cleaner.

Power unit is readily removed from tank and converted into a powerful BLOWER, by removing bag and substituting special coupling and guard.

G-E CHIMNEY-CLEANING AND AIR-DUCT EQUIPMENT For Use with Model AVI-F908 ▶ Furnace Cleaner



Another ingenious contribution to speed clean-up jobs is the G-E Chimney-Cleaning Set. This equipment brings down the soot and gets it into the machine with a minimum of muss and fuss.

Revolving handle and vacuum hose fit through special shield which keeps falling soot from escaping into the cellar. As shown, set includes Shield, Crank, Chimney Flue Brush, Duct Brush and eight 4 ft. extensions.

YOUR FIRST STEP **toward Lower Furnace Cleaning Costs and MORE Satisfied Customers is taken when you mail coupon below.**

Furnace and Boiler Cleaners
GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-1637
1285 Boston Ave., Bridgeport 2, Conn.

Certainly, I'm interested in more efficient Furnace Cleaning Equipment. Send details.

Name .....

Firm .....

Address .....

City ..... Zone..... State.....

HERE GOES OUR LAST
Klemm FUEL OIL FILTER
CALL OUR JOBBER QUICK!

YOU, TOO, CAN MAKE EXTRA EASY SALES WITH KLEMM FUEL OIL FILTERS NOW

When serving your customers with Fuel Oil or cleaning their oil burners be quick to suggest a Klemm Fuel Oil Filter. Klemm Filters remove water, rust, and sediment of all kinds from oil . . . helps step up heating efficiency. Get a supply of Klemm Oil Filter units from your jobber TODAY. See for yourself how easily customers can be sold this highly profitable item.

Klemm Oil Filters remove all water, dirt, sediment, rust, and all foreign matter from fuel oil . . . help make customers happy with the oil you sell. Metal bowl units listed Underwriters' Laboratories. All sizes available for every filtering need.

ORDER A SUPPLY FROM YOUR JOBBER TODAY

SILENT SALESMEN

Packed 12 to a carton, Klemm JR model oil filters take little counter space yet do a BIG job of selling themselves. Customers are attracted TO and buy direct FROM this attractive display carton.

Millions Since 1932

Klemm

AUTOMOTIVE PRODUCTS CO.

1718 N. Damen Ave., Chicago 47, Ill.

Air Filter efficiency Test Method designed by Farr Co.

TESTING air filter efficiencies, the Farr Co., Los Angeles, Calif., feels, has been greatly improved by the use of new machines developed by its engineers.

The new method tests each filter according to dust particle size rather than using a "standard dust" test. The performance of any filter can then be predetermined under any operating condition.

A technical booklet shows the equipment used and results obtained. Free copies are available on request.

Esso realigns sales Regions; names three new Heads

ESSO STANDARD OIL CO., New York, N. Y., has realigned sales regions in its 18-state marketing area. Named to head the Southern region was John A. Miller; Gordon D. Donald was appointed manager of the Northern region and Edward S. Diggs, the Central region.

Miller was formerly manager of the advertising-sales promotion dept. of Esso Standard and since 1945 has been coordinator of these functions for Standard Oil Co. (New Jersey) and its affiliates. Donald, prior to his appointment, was manager of the New Jersey div., Esso Standard and Diggs, previously, was manager Delaware-Maryland-Washington, D. C. div.

Revise instruction Book for Climatemaker Calculator

THE CLIMATEMAKER Heat Loss Calculator Co., Bloomington, Ill., has revised and simplified its instruction book on the use of its heat loss computer designed to eliminate steps in heat loss calculating.

"Many dealers consider technical, complicated reference books and charts too time-consuming and expensive for use in everyday work," Mrs. V. M. Whitmer, president, said. "When we realized our own book of instructions had also become technical, we immediately decided to do it over."

The Climatemaker is a slide rule instrument which answers the following heating problems: heat loss of residences in Btu's per hour; warm air pipe size, area and stack size for forced air, gravity 175° and gravity 200° heating systems; line loss; heater and blower sizes for warm air systems; warm air C.F.M. and standard equivalents in water and steam radiation; oilburner, gasburner, stoker or handfired heater sizes and cost of heating per season.

New space Heaters shown by Perfection at Chicago

A HALF DOZEN new oilburning space heaters, manufactured by Perfection Stove Co., Cleveland 4, O., were included in the list of products shown by Perfection at the Furniture and Appliance Markets in Chicago last month.

The use of full color ads in mass circulation magazines in the general, women's, rural and small-town fields, tieing-in to the local dealer level, plus cooperative dealer advertising in local media, will keynote Perfection's 1952 advertising campaign.

List sweepstake Winners of McDonnell & Miller Drawing

THE 16TH ANNUAL SWEEPSTAKE drawings, sponsored by McDonnell & Miller, Chicago 18, Ill., was held Christmas Eve, Dec. 24, supervised by Marc Bluth, secretary of Stoker Manufacturers Association and Bill Jones, manager of the local Iron Fireman organization.

Of the one hundred winners since the sweepstakes were inaugurated, not one winner has repeated.

A list of prizes and winners in this year's drawings were as follows:

1st prize: Complete golf set—Frank Maps, Red Bank, N. J.; 2nd prize: Gruen wrist watch—Robert E. Ruud, St. Paul, Minn.; 3rd prize: RCA Victrol—Raymond T. Hill, Trenton, N. J.; 4th prize: Sportman's Kit Bag—Arlyn C. Wagner, Lexington, Ky.; 5th prize: Radio clock—Joseph Bonora, Rochester, N. Y.; 6th prize: Radio clock—Philip E. Carr, Providence, R. I.

Mussun Equipment named Maid-O'-Mist Representative

MAID-O'-MIST, Inc., Chicago, Ill., has appointed the Mussun Equipment Co., Cleveland 15, O., as representatives for its Northern Ohio territory. Maid-O'-Mist manufactures humidifiers and hot water heating specialties.

85% YEAR AFTER YEAR OF ALL NEW OIL BURNERS ARE EQUIPPED WITH...

Dielectric IGNITION ELECTRODES

For many years DIELECTRIC ignition assemblies have been the overwhelming choice for new burners or as replacements. They're ahead for 5 big reasons:

BETTER SERVICE ON NEW DESIGNS • QUICK DELIVERY OF STANDARD PARTS
AUTOMATIC PRECISION PRODUCTION • HUNDREDS OF STYLES • LOW PRICES

DIELECTRIC electrodes are the finest available in standard types and in special sizes and shapes, all UNDERWRITERS' approved.

DIELECTRIC also makes high tension cable assemblies and bus bars for transformer and electrode layouts for any burner hookup.

Go DIELECTRIC and you'll never again settle for lesser quality or service.

DIELECTRIC PRODUCTS CO., Inc., 125 Virginia Ave., Jersey City 5, N. J.

Blackmer adds Outlets to stock full Line

BLACKMER PUMP CO., Grand Rapids, Mich., has added two distributors, Howard Supply Co., Oakland, Calif. and Hetler Equipment Co., Grand Rapids, Mich., who will stock Blackmer Pump Company's entire product line and service parts.

Mueller Furnace Co. holds 3-day sales Convention

A 3-DAY SALES CONVENTION was held by L. J. Mueller Furnace Co., Milwaukee, Wisc., manufacturers of Mueller Climatrol heating and air conditioning equipment at the company's plant and Plankinton Hotel in Milwaukee, January 2, 3 and 4. H. P. Mueller, president, outlined to his sales representatives, the company's sales program, pointing out the need for creative selling to increase sales volume.

The first day's sessions were devoted to sales. Engineering techniques and new products were demonstrated the second day and the meeting concluded its last day with explanations by numerous department heads of the company's expanded 1952 advertising and sales promotion program.

William J. Grede, president, National Association of Manufacturers, spoke before the group on the subject, "Free Enterprise," at a banquet held January 4.

"Magic Dial" Promotion launched by Perfex Corp.

A PROMOTION CAMPAIGN has been launched by Perfex Corp., Milwaukee 7, Wisc., on "Magic Dial" thermostats. "We are out to give solid sales backing to thousands of jobbers and dealers who handle our products," V. P. Black, vice-president said, "as well as the many heating equipment manufacturers who offer our controls with their heating systems."

Issues of *Good Housekeeping* and *House Beautiful Building Manual* magazines have been scheduled. Emphasis on the renewal of the Good Housekeeping Guaranty Seal will be stressed throughout the entire campaign.

"The Lady Who Loved a Thermostat" is the title of a 20-page illustrated booklet shaped as an animated thermostat. It threads a romantic theme through which is weaved the explanation of how the modern thermostat operates to bring new heating comfort. The booklet is being offered free to the general public through magazine advertisements.

Point-of-sale display materials, built around a self-service counter dispenser, are being made available to wholesalers and dealers through Perfex distributors.

ONLY McCORKLE CONTROLS for Vaporizing Oil Burners give you this combination of vital features

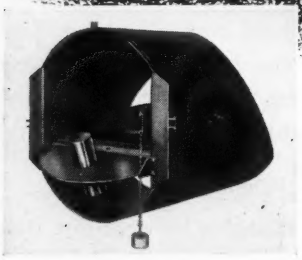
- Patented dual blade bi-metal assembly—insures trouble-free operation—supplies a wide margin of *extra power.*
- More rapid heat transmission.
- Snap acting Micro-switch.
- Heavier, more rugged construction.
- Less service—greater customer satisfaction.

We will gladly furnish literature and specifications for your particular requirements. Write us today!

D. H. McCORKLE CO.
Box E, Station A Berkeley, California

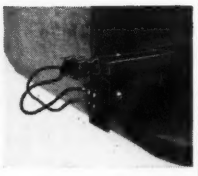
it's another Field First and Best!

The "M-G" Double-Acting Field Draft Control for gas Fired Heating Plants*



*Available at present in commercial sizes only.

Optional auxiliary switch will close main gas valve or sound alarm in case of blocked flue or prolonged down-draft, preventing escape of carbon monoxide into building.



Now there's a Field for gas, too! And the same accuracy and sensitivity that have made Field first for coal and oil-fired heating plants make the new Field "M-G" first for gas-fired heating plants. It's the first and only barometric draft control engineered exclusively for gas. Write today for complete details.

THE DRAFT CONTROL
. . . that's advertised nationally in *BETTER HOMES & GARDENS*

Field CONTROL DIVISION
of H. D. Conkey & Company, Mendota, Illinois
AFFILIATES:
Conco Building Products, Inc. • Brick, Tile, Stone
Conco Engineering Works • Heating Equipment

Fenwal publishes catalog on Thermoswitch controls

A 52-PAGE CATALOG on Thermoswitch temperature controls has just been published by Fenwal, Inc., Ashland, Mass., describing the design, operating characteristics and installation of each of the 10 variations on the basic Fenwal thermostatic device. A special section covers the selection and application of the Thermoswitch.

The catalog discusses, in addition, the principles of the basic Thermoswitch and why it is sensitive only to heat; modifications, special features, protective wells and the Fenwal Temperature Test Kit. Dimensional drawings and thermal and electrical specifications are given for both the standard and heavy-duty types of each model. In addition, typical applications of each model are described and illustrated.

Sun-owned Lines merged; Sun Pipe Line Co. formed

ALL SUN-OWNED pipeline companies were merged to form a new company, Sun Pipe Line Co., Philadelphia 3, Pa. W. C. Kinsolving, who had been president of Sun's pipeline subsidiaries, heads the company.

Affected in the merger were Susquehanna Pipe Line Co. and Sun Pipe Line Co. (Texas). In addition the new company also acquired Sun Oil Company's interest in Mid-Valley Pipeline Co. and West Texas-Gulf Pipe Line Co.

Expansion of sales Force keynotes Timken Meeting

A MAJOR INCREASE in the dealer retail sales force of Timken Silent Automatic Div., Jackson, Mich., keynoted the four-day year-end sales meeting at Jackson which was attended by regional managers from the U. S. and Canada.

Ways and means of expanding and strengthening this sales force, including various incentives and stimuli, were outlined by R. M. Marberry, merchandising manager. Walter F. Rockwell and T. A. Crawford, president and general manager, respectively, expressed optimism for a good 1952 sales year within the limitations of material availability.

To take care *of business expansion in the manufacturing of oilburners and oilburning furnaces, the Quiet Automatic Oil Burner Corp. has completed the construction of additional factory and office facilities in its plant at Montclair, N. J.*

Stewart-Hall promotes Sludgemaster Additive

SLUDGEMASTER, fueloil sludge solvent, is covered in a new sales promotion piece, prepared by Stewart-Hall Chemical Corp., Mt. Vernon, N. Y., designed to obtain business from industrial fueloil consumers. The 4-page booklet explains the advantages of the product and includes typical installations that are serviced with Sludgemaster.

As part of the program, each distributor is supplied with a handy demonstration kit to show prospects in less than five minutes how the solvent works to liquefy sludge and emulsify water condensates in the fueloil and disperse it so that it is consumed by the burner.

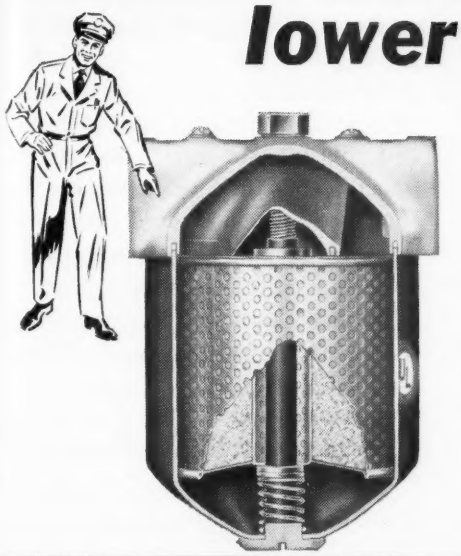
Sludgemaster is packed in 5, 15, 30 and 55 gal. drums. Fueloil dealers may secure complete information on the product and the promotional campaign by writing Stewart-Hall Chemical Corp.

Johns-Manville publishes new Catalog on Products

A NEW 24-PAGE CATALOG, "Products for the Plumbing and Heating Industry," has been published by Johns-Manville, New York 16, N. Y., covering J-M insulations, refractories, packings and gaskets, and asbestos-cement pipe.

The refractory products section describes Johns-Manville insulating fire brick for domestic oilburners, fire and standard firecrete, trade names for J-M asbestos furnace cement and for casting special shapes.

FRAM FILTERS cut nuisance calls, lower costs . . .



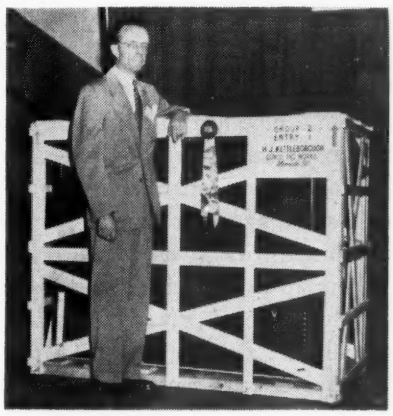
Fram Fuel Oil Filters save you time, trouble and money . . . practically eliminate "nuisance" service calls! Fram protects pump valves and burner nozzles from damage and malfunction because of dirt, rust, scale, grit and water in the fuel. And Fram Filters build customer goodwill for you because oil burners operate more economically and dependably with Fram protection!

Write for full details TODAY!

Fram Fuel Oil Filters are available in capacities of 2000, 4000 and 6000 gallons of oil consumed per year. Write to: FRAM CORPORATION, Providence 16,R.I.

Specified by leading Oil Burner Manufacturers

FRAM FUEL OIL FILTERS



Conco shipping Crate wins packaging Prize

THE STANDARD SHIPPING CRATE for a Conco winter air conditioner won second place in its group at the Industrial Packaging and Materials Handling Exposition held in Cleveland during October. The Conco exhibit, a crated M1-110 furnace, was entered in the nailed wood boxes and crates group competition and was given the award on the basis of sound engineering design of the crate, as well as an careful workmanship in assembling.

The exhibit was entered by Harry Kettleborough, director of purchasing, Conco Engineering Works, Mendota, Ill., who is shown in the illustration.

Coleman cuts Prices despite higher Costs

PRICE REDUCTIONS of from $10 to $20 on all current models of Coleman floor furnaces and from $5 to $20 on oil space heaters were announced by Coleman Co., Wichita, Kans. The reductions represented 3 to 11.5% of established retail selling prices.

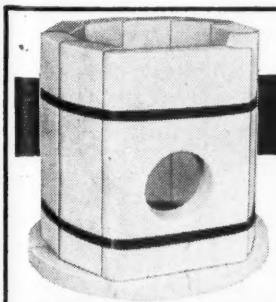
The cuts were made despite mounting production costs "in order to build the strongest dealer organization in the heating industry," Sheldon Coleman, president and general manager said, "prior to the inevitable return of highly competitive selling."

Winkler dealer Convention highlights Plans for '52

WINKLER DISTRIBUTORS, U. S. Machine Corp., Lebanon, Ind., held a two day dealer convention, January 10 and 11 at the Claypool Hotel, Indianapolis.

Herman Hickman, Yale football coach and television personality, was the principal speaker at the first day's session. Executive heads of several departments discussed Winkler's plans for 1952, new sales promotions and each executive explained the workings of his department.

A pre-convention "open house" was held January 9 to acquaint dealers, making their first contact with office and factory personnel, with the operation and methods in manufacturing the products they sell.



Equipment manufacturers are invited to bring their special design problems to us.

FOR SATISFIED CUSTOMERS — INSTALL . . .

AMERICAN COMBUSTION CHAMBERS

100% "KILN-CURED" LIGHTWEIGHT REFRACTORIES

HIGH QUALITY

American Chambers are made from the finest, high grade refractory materials combined with proper "Kiln-curing". They will withstand 2500 degree temperatures and will not crumble in water.

EASY INSTALLATION

Controlled manufacturing and careful design of American Chambers makes for fast and easy installation. The flexible pieces fit together with a minimum of effort.

TOP PERFORMANCE

Because of the high quality of materials used in American Chambers they provide faster heat-ups, quieter burner operation and savings in fuel.

JOBBERS: Write today for price sheet.

AMERICAN CLAY FORMING CO.

TIFFIN, OHIO

POWERFUL
VACUUM
FURNACE CLEANER
AND
POWER BLOWER
AT
LOW, low price
$111.65

Here's the vacuum that gets you into the cellar at the lowest price; allows cheap cleaning jobs to develop into profitable service work. The Pullman Vacuum is inexpensive, powerful, portable and has no outside bag. It will handle home boilers and small industrial jobs. The complete unit of efficient universal motor, life-lubricated bearings, electro-welded steel container, capacity 1½ bushels, baked enamel finish, plug-in casters, 35′ cord, 10′ hose and 27″ crevice tool is only $111.65. Send for name of nearest distributor. Jobber inquiries invited.

USE to blow out fuel tanks, clean air ducts, registers, beams, floors and in shop maintenance.

Pullman

PULLMAN SALES CORP.
MFR: BOSTON 19, MASS.

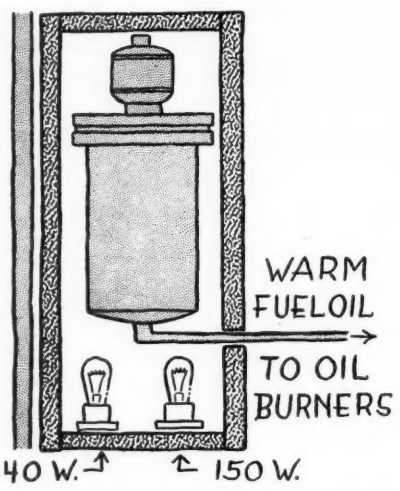
Everyday Snags

Light Bulbs Heat Fueloil

The way he tells it, the fueloil salesman felt he had to say something when this customer, who just started buying 25,000 gallons a year of No. 4 oil, showed him the details of the oilburner set-up that used the oil.

So the salesman said, "Your boiler room is hot, probably well over 100°, but that big wall pump is outside the boiler room in an unheated lean-to, therefore sends awfully cold oil to your burners."

This aroused the interest of the technical-minded owner, and the salesman added that the oil was going to the burners at about 40° in cold weather, whereas 100° would be better. Warming oil reduces its viscosity, thus leads to better atomization and more efficient combustion.



A week later the owner summoned the oil salesman and showed him how, as the diagram gives an idea, the wall pump in the cold lean-to had been boxed in with thick insulating board and heated by two electric light bulbs. The 40-watt bulb stays on all the time. Intended to compensate roughly for the amount of cold oil that comes into the wall pump tank, the 150-watt bulb is wired in parallel with the wall pump motor and is on only when the pump is running.

"It wasn't in my heart to tell the new customer he shouldn't have made the box of insulating board that might become oil-soaked in case of trouble at the pump," says the salesman. "But I did tell him to stick a laboratory thermometer through a hole in the box to find out the inside temperature and make sure it's not too high for the pump motor.

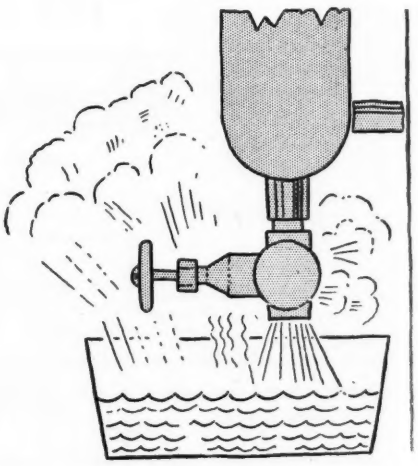
"After seeing the unorthodox rig that resulted from my commenting on the cold oil, I'm sorry I opened my mouth. The burners certainly are getting warm oil now, and the owner says he's keeping close tabs on the oil consumption to find out how much oil he is saving through applying my idea of feeding the burners warm oil."

* * *

Avoiding Steam Burns

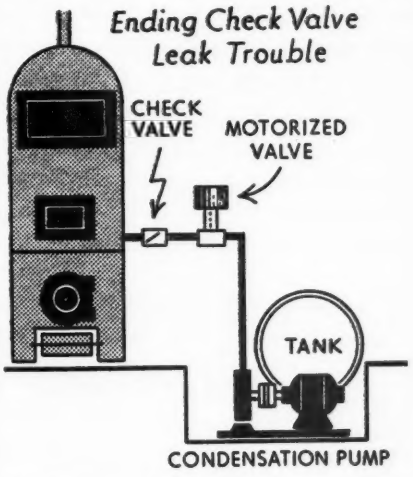
The chore of flushing this low-water control every week, to clean its float chamber and prove the switch works, kept getting the nanny of this watch engineer in a big boiler room equipped with oilburners. His boss wouldn't let him run a pipe line to take the steam and hot water away from the valve used for flushing, and closing the valve while steaming water spurted from it was quite a trick. Even with his hand in a burlap bag when he snatched at the valve to close it, says the attendant, he could get a steam burn.

Here's the trick he finally stumbled on, and it proves helpful also for flushing low-water controls of domestic heating plants. Start with a pail half full of cold water, and hold this close to the valve as the steaming water pours out. You'll be able to turn off the valve and dispose of the drained water in greater comfort and safety, because when you get through flushing the pail will contain mildly warm water instead of boiling water giving off clouds of steam.



Steam in Condensate Tank

After he had replaced an obsolete industrial burner with a modern layout that could get up the 15 lbs. steam pressure the owner desired from this 125 horsepower steam boiler, the burner dealer was held responsible for a new trouble. Water seemed to boil in the condensate tank in a pit near the boiler, though it never had before. The dealer checked first for leaky steam traps, and found none. After much investigation, he found that with the boiler pressure as high as 15 lbs., a check valve in the line from the condensation pump to the boiler would leak sufficiently to cause the trouble the owner complained about. Grinding in the old check valve and then trying out two other check valves did not solve the problem. Perhaps, says



the burner dealer, the boiler water contained too much sediment and scale to permit a check valve to close tightly enough every time.

At any rate, he solved the problem by installing a motorized valve in series with the check valve and wiring this to open and close for the control that used to start and stop the pump. As the new valve opens, an auxiliary switch in it starts the pump when the valve gets two-thirds open. As the valve closes, the switch stops the pump when the valve gets to the one-third closed position.

The snag was overcome, says the dealer, by an expensive arrangement. But the trouble certainly is ended for good.

* * *

Twin Nozzles Needed?

Service men often wonder whether to use one or two nozzles on jobs fired fairly hard, say at rates above 5.0 gph.

In general, low-capacity nozzles give better atomization than high-capacity nozzles, according to the ideas of certain nozzle experts. In addition, less nozzle height (measured from the nozzle centerline to the firebox floor) naturally is needed for a low-capacity nozzle than for a high-capacity nozzle. Where a 12 gph nozzle causes oil impingement and formation of carbon on the firebox floor, it may be wise to switch to a twin-nozzle adapter and to two 6.0 gph nozzles.

Smoke and CO_2 tests can give concrete answers to problems involving the use of one or two nozzles. On a certain job, for example, using a 15 gph nozzle produced 9½% CO_2 with the burner adjusted to give a #3 smoke reading. Switching to two 7.5 gph nozzles and tuning the burner for a #3 smoke reading then produced a CO_2 reading of 10¼%. In this case, the use of two nozzles instead of one gave a slight but definite increase in efficiency. The man wonders, however, if what he needed was a better 15 gph nozzle.

For GASOLINE and OIL TRANSPORT SERVICE

MODEL GL-02
Gear Drive (as shown)
Also for Engine Drive
Motor or Belt Drive.

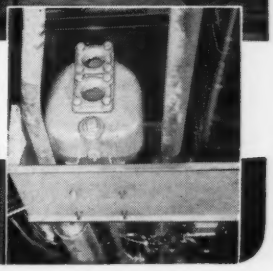
AND HERE IS Why!

This Pump Has: Straight-in-line Suction and Discharge, eliminates friction loss . . . **No Check Valve,** reduces maintenance cost . . . **Positive Self-Priming,** Gorman-Rupp design . . . **Sturdy Helical Cut Gears,** designed to take fifteen H.P. continuously and operates thrust free . . . **Self-lubricating Seal,** dependable and trouble-free . . . **Compact,** requires the minimum of installation space . . . **Most Efficient pump of its kind** . . . Compare these points with any other pump on the market. **There's No Pump Like It.**

Easy mounting on trucks. Unit dimensions most suitable for installations between truck frame and members.

Photo at right—GL-02½ pump mounted on a canopy body truck. Used for aircraft refueling in connection with a hydrant system.

Lower photo—close up view of same installation showing pump attached to truck frame. Note excellent ground clearance.



Ask for Bulletin O-PP-11 and Performance Curves.

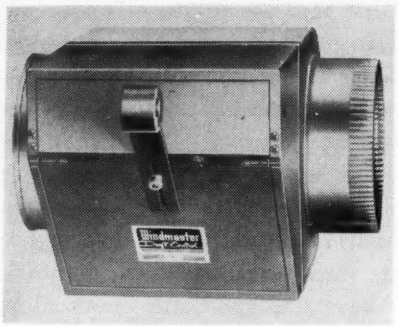
Eastern Petroleum Representative:
CHAS. W. M. COOTE CO., INC.
336 Gregory Ave., West Orange, N. J.

THE GORMAN-RUPP COMPANY
MANSFIELD, OHIO

New Products

Windmaster draft Controls features a square Vane

A SQUARE VANE, mounted on an angle, features the Windmaster draft control, being offered in a range of sizes from 6″ to 24″. Installation time for the control has been reduced to a matter of minutes by the use of an adapter for both horizontal and vertical flue pipe installations, which eliminates the need to cut a hole in the flue pipe and strap the control on the pipe. The adapter snaps into the flue pipe as a



complete section and is available in sizes to fit all common round flue pipe sizes. The control housing quickly snaps into the adapter.

Windmaster has a patented slide-type balancing weight, calibrated for rapid setting for the correct water column inches. When the balance weight is placed at the proper setting, it is held permanently in place with a set screw. The control can be installed in flue pipes at any angle from horizontal to vertical and functions equally well at various angles. It is made from cabinet steel, covered with neutral baked enamel, with the vane riding freely on spherical-end Torrington bearings.

Made by: Buckeye Furnace Pipe Co., 897 Ingleside Ave., Columbus, Ohio.

Rochester perfects welding Process for Thermometers

DIAL TYPE, all stainless-steel, bi-metallic thermometers produced by Rochester are being made with a new process for welding thin sections of stainless steel that combines the thermometers into one sturdy assembly of case, stem and connection nut. The process, perfected by Rochester, like spot welding adds no new metal so that the stainless-steel retains its corrosion resistance. The new construction withstands all corrosive and erosive conditions on exposed surfaces and increases the range of applications for dial thermometers.

The illustration shows how a stainless steel weld replaces silver solder at the stem and base of the thermometers. Freedom and breakage and release of contaminating liquids will eliminate separable sockets for process applications and will result in increased speed of response and high accuracy.

Valves are cradled in end of thermostat tube. Kept air tight. Water cannot spray. It is funneled. Even with valve wide open water runs smoothly. This overcomes clogging . . . liming up.
Water drops into pan only after it is hot. Each drop sizzles into steam as it strikes heated pan surface. This puts the MOST MOISTURE into air stream when it is MOST NEEDED.
Write today for complete information. FO-22

AUTOMATIC HUMIDIFIER CO. CEDAR FALLS, IOWA

WEATHERALL OIL BURNERS

HIGH PRESSURE

LOW PRESSURE

COMMERCIAL and INDUSTRIAL

Sizes 1 to 35 GPH

WARM AIR FURNACES

Suspended
Lo-Boy
Hi-Boy

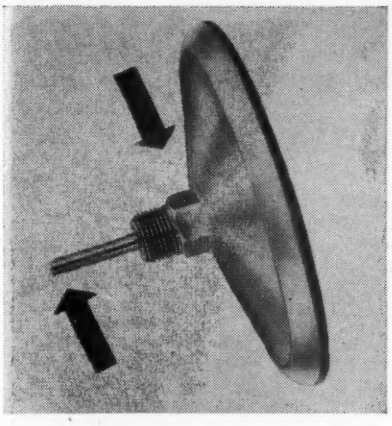
BOILER-BURNER UNITS

Steam—Hot Water

WRITE FOR CATALOG

WEATHERALL ENGINEERS, INC.

387 CHARLES STREET
PROVIDENCE 4, R. I.



A special recalibration device is available on Rochester thermometers.

Made by: Rochester Mfg. Co., Inc., Rochester 10, N. Y.

Mulkey Counterflow Furnace used with slab Floor Heating

MULKEY counterflow oil furnace has been designed with a bottom warm air outlet for use with slab floor heating and contains a squirrel cage blower mounted at the top of the furnace, which forces air directly downward over the combustion chamber and discharges it through the bottom outlet. The unit, which develops a 76,000 Btu/hr output at the register, may be fired with a flange-mounted gun burner, horizontal flame vaporizer or pot type burner. The entire front panel is removable for inspection or servicing.

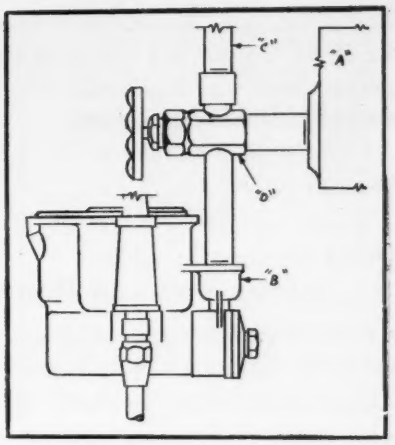
Furnace dimensions are 62" high, 28" deep and 20" wide, with a 17½" x 26" warm air outlet and a side or bottom cold air inlet measuring 14½" x 22¾". A 16" x 25" x 1" air filter is standard equipment.

Made by: J. F. Mulkey Co., West Eight Mile and Telegraph Rds., Detroit 19, Mich.

Guardian Valve for Use with wall flame Burners

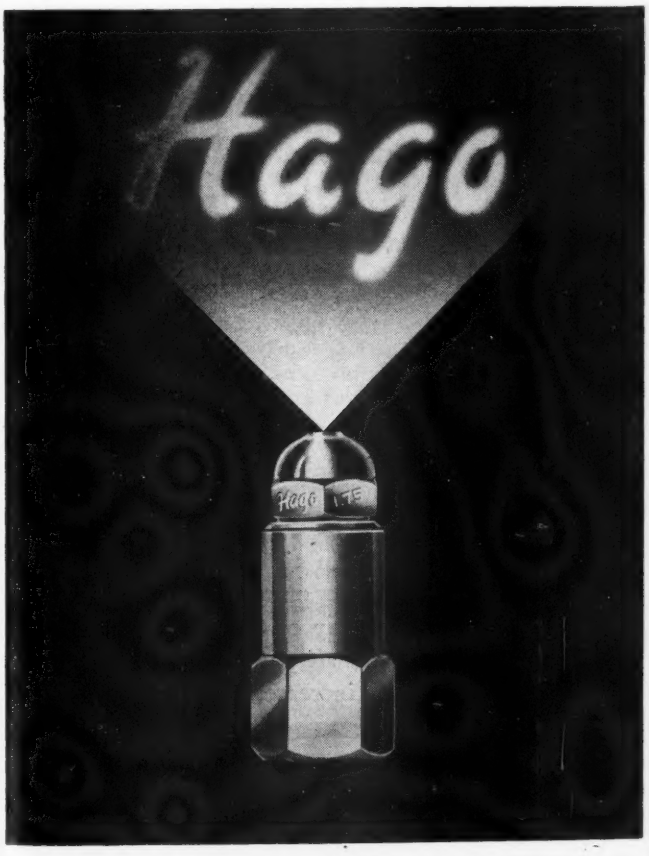
GUARDIAN #1909-CL valve is an accessory for use with wall flame rotary oilburners connected to a basement oil storage tank. It is designed to keep the rate of oil delivered to the burner constant at varying levels of oil in the tank.

It is a single valve body, which reduces the need for many fittings and lessens the number of potential leakage points in an oil feed system. The outlet



spout of the valve, when drawn into "tight" connection in the tank, makes possible its use with either side or top entrance constant level valves.

The 1909-CL, direct connecting the constant level valve to the tank, has in its body a gage port with ¼" or ⅜" female IPT, to receive oilburner manufacturers' recommended flow rate gage. Delivery of oil under tank head pressure to the flow rate gage is controlled by the valve, which also serves as a tank shut-off valve in normal burner operation. Gravity feed of oil from



HAGO PRODUCTS

1281 SPRINGFIELD AVE. IRVINGTON 11, N. J.

CERAMIC REFRACTORIES

•

The Gem Clay Forming Company

SEBRING, OHIO

Established 1907

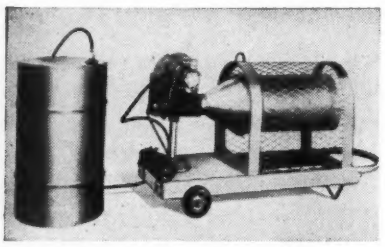
Telephone: SEbring 8-6141

the flow rate gage through the body of the 1909-CL is safely in excess of the gph maximum of any wall flame burner for which published data is given.

Made by: Guardian Products Corp., Michigan City, Ind.

Quiet Automatic adds portable, radiant Heater

A NEW MODEL compact portable space heater of the radiant type has been added to the Quiet Automatic line.



Designated No. 200, the unit has a rating of 189,000 Btu/hr., and is shipped completed with solenoid valve and gun type oilburner.

Its combustion chamber incorporates a split baffle that circulates air around the outside of the chamber and, at the same time, supplies air to the burner. The unit is mounted on a two-wheeled chassis.

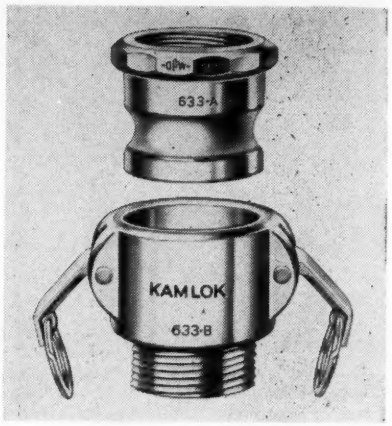
Made by: Quiet Automatic Oil Burner Corp., 33 Bloomfield Ave., Newark, N. J.

Kamlok slip-on assemblies for speedy Couplings

OPW KAMLOK COUPLING ASSEMBLIES slip over adaptor and press cam levers without tools, giving a perfectly tight coupling that cannot slip or buckle in all kinds of weather.

Kamloks fit without leakage regardless of place in line or hook-up. They withstand pressure beyond ordinary gravity or pump pressure and permit hose to operate at peak efficiency. The utility truck faucet combination is good for quick coupling of truck tank hose to multiple units which eliminates twisting, kinking and straining of hose, reduces loading and delivery time, avoids damage to hose, coupling and faucet.

Sizes 1″ to 3″ are manufactured of special hard-resistant bronze.



The 4″ is manufactured of Opalumin, OPW hi-tensile aluminum alloy for durability, minimum weight and ease of handling. Even though Kamloks hold tight and never come loose, they release instantly in case of emergency.

Made by: OPW Corp., 2735 Colerain Ave., Cincinnati 25, O.

Water heater increases hot water Capacities

PORTMAR WATER HEATER, which omits the need for a separate storage tank, is

SOMETHING NEW!

LEGGITT OIL TANK VALVE

This all brass valve with brass seat, is specially designed for direct connection between oil tank or drum and tube line to heater or furnace. One, two, or three tank hook-ups are accomplished very easily with a minimum of effort.

Always look to Leggitt for the newest in valves, filters, fittings, etc. — the BEST in BRASS at the MOST REASONABLE PRICES! Whether your order is large or small it will receive the same prompt and careful attention.

- GALVANIZED MALLEABLE IRON FITTINGS
- BRASS FITTINGS
- COPPER TUBING
- OIL FILTERS
- OIL VALVES

No. 18A32

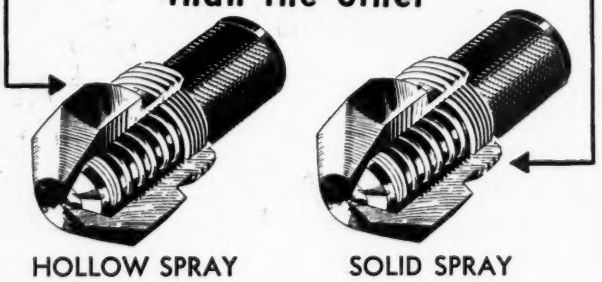
Write for catalog and prices.

SOUTHWESTERN OFFICE & WAREHOUSE
San Marcos, Texas

S. H. LEGGITT CO.
325 N. E. High St.
MARSHALL . MICHIGAN

APTHORP *True Alignment* NOZZLES

BOTH ARE PERFECT
but one may be *BETTER* for a *PARTICULAR BURNER* than the other



HOLLOW SPRAY SOLID SPRAY

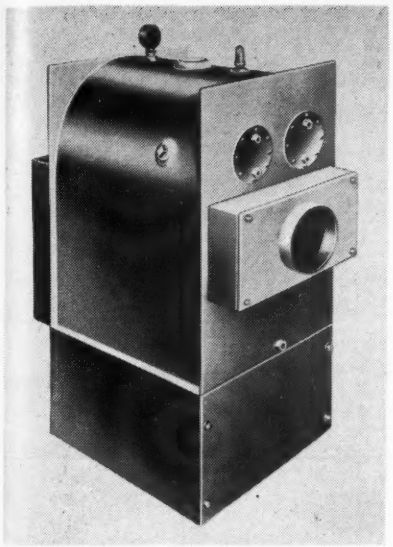
Every burner has a certain air pattern that is governed by the design of its particular head. Either an Apthorp Hollow Spray or Solid Spray Nozzle will mate best with this air pattern. By use of the right type, CO_2 will increase from 2% to 4%.

STOCKED BY LEADING DISTRIBUTORS EVERYWHERE

BOSMACO

WRITE FOR COMPLETE NOZZLE BULLETIN

BOSTON MACHINE WORKS COMPANY
Oil Heating Supplies Division, Manufacturers, Lynn, Mass.



designed to deliver 300 to 1500 gallons of hot water per hour through 100 degree rise with boiler water at 180 degrees. Twin coils deliver dual temperatures of hot water through passages of copper tubing.

When two temperatures of water are required, such as sterilizing or dishwashing which calls for 180 degree water, the Portmar Water Heater supplies both temperatures from the same unit. Temperatures of 227 degrees maintained in the heater increases capacities 100%.

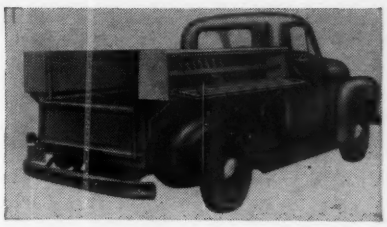
The unit is fully automatic and is fired by oil or gas for domestic, commercial and industrial use. Every water heater is fully guaranteed, tested under high hydrostatic pressure and constructed in accordance with A.S.M.E. boiler code.

Made by: Portmar Boiler Co., 193 Seventh St., Brooklyn 15, N. Y.

Craftsman Utility Boxes for use on pick-up Bodies

CRAFTSMAN UTILITY BOXES have been announced for mounting on standard ½, ¾ and 1 ton pick-up truck bodies. They are all-steel, welded, weather-tight construction and are equipped with locking door handles. No skill is required to mount them and bolts and brackets are furnished with each order. Shelves and compartments afford convenient space for carrying service tools and parts.

Model No. 50 Utility Boxes are available in two lengths. The 75" long

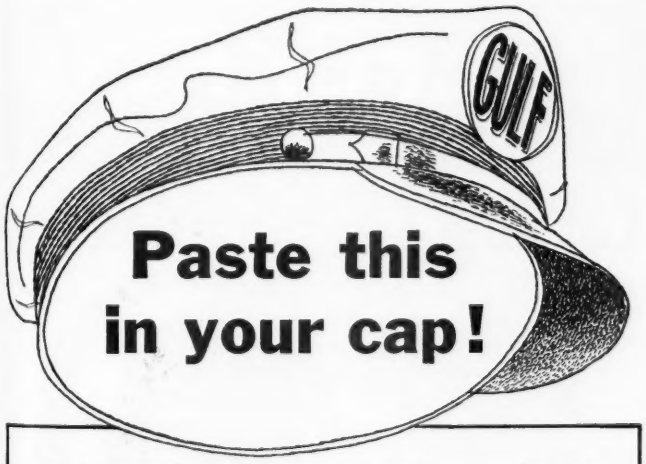


size is 12½" wide and 15" high, designed for mounting on a ½ ton pick-up body. The 85" long size is the same width and height as the smaller size, and is intended for mounting on ¾ and 1 ton bodies. Optional extras that can be furnished include ladder racks with spring holddowns and pipe carrier brackets with tension holddown clamps.

Made by: Stahl Metal Products, Inc., 3490 West 140th St., Cleveland 11, Ohio.

Heat-Timer radiator Valve with thermostatic Element

ROOM TEMPERATURES are individually and automatically controlled with the new, improved Heat-Timer thermostatic radiator valve, which replaces



Customer's Question: Is oil heat really the best heat?

Your Answer: Yes. It is the best heat because it is *fully* automatic, clean, healthy, safe, dependable and economical.

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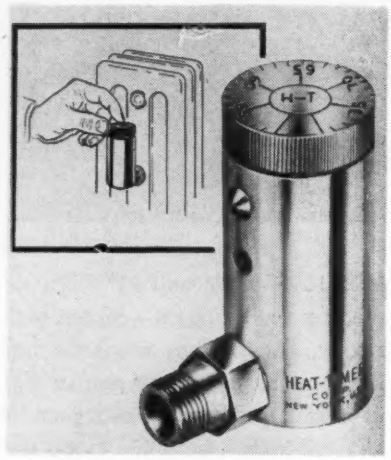


ordinary valves and speeds heat to colder rooms by automatic control of air venting. A simple dial may be set for any desired room temperature.

Heat-Timers are applicable to any low pressure one-pipe steam system, without interference or alteration, with existing boiler controls. The temperature-sensitive phosphor bronze bellows and other features are the same as in former models. Body of the valve is brass, finish is chrome.

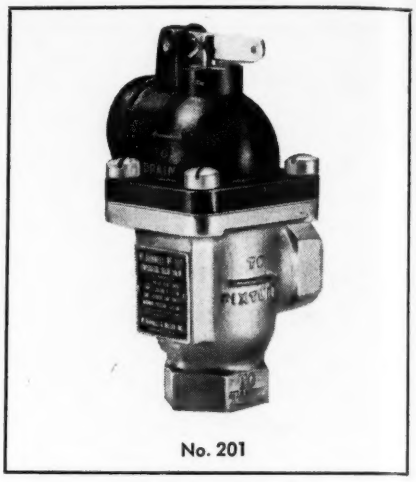
Broadway, New York 12, N. Y.

Made by: Heat-Timer Corp., 520

McDonnell relief Valve for hot water Tanks, Heaters

MCDONNELL NO. 201 temperature relief valve, automatic reseating type, has been designed to prevent excessive water temperatures in hot water tanks and heaters. Operating heart of the No. 201 is a Vernatherm thermostatic element, hermetically sealed and containing a chemical mixture of organic and metallic particles, which expand and contract in response to temperature variations. The valve starts to open at 188° F. and reaches maximum capacity at 208° F.

The Vernatherm element features high accuracy, durability and uniform expansion throughout the designed operating range. It reseats itself automatically and closes off quickly at a few degrees below the opening temperature to avoid hot water waste. Fatigue tests have shown the element has a life of approximately 10,000 cycles. By adding a fixture connection to the valve, in addition to inlet and drain connections, service flow can be made to pass around the element with



No. 201

every demand for hot water.

The body of the valve, through which service water flows, is a heavy brass casting; all waterways have generous clearances to prevent clogging. Valve disc utilizes the new GE silicone rubber and a pull-down test type lever is included. The No. 201 is suitable for pressures up to 125 lbs. and all connections are ¾" tappings.

Made by: McDonnell & Miller, Inc., 3500 N. Spaulding Ave., Chicago 18, Ill.

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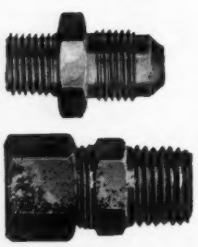

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Industrial sizes from 2' x 2' to 5' x 12'.

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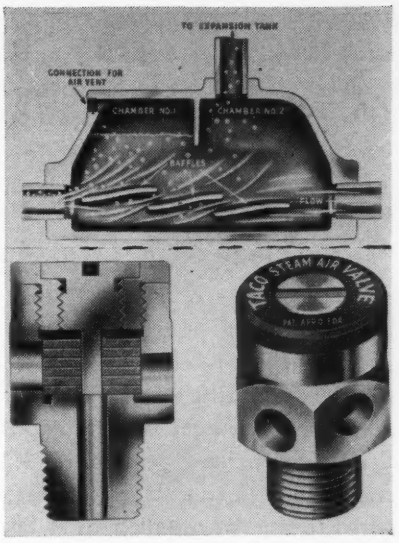
Taco Air-Scoop and Silent air Valve

TACO HEATERS has announced two new products—the Air-Scoop for removing air from hot water heating systems and a silent air valve for steam heating.

As air and water enter the Air-Scoop, air bubbles are collected by the first baffle and rise into the upper chambers. Air bubbles that get by the first baffle are scooped up by the second or third. Air accumulated in Chamber No. 1 is removed by the air valve and air from chamber No. 2 passes into the expansion tank to act as an air cushion. If air should completely fill the expansion tank and back down into the Air-Scoop, the excess will be removed by the air valve.

The steam air valve measures only ¾" x 1" and forces air out between special composition discs by steam pressure. Steam entering the valve moistens and swells the discs, which are sized so that they will not seal completely until all air has been forced out and the valve is full of steam. After the thermostat is satisfied and the steam



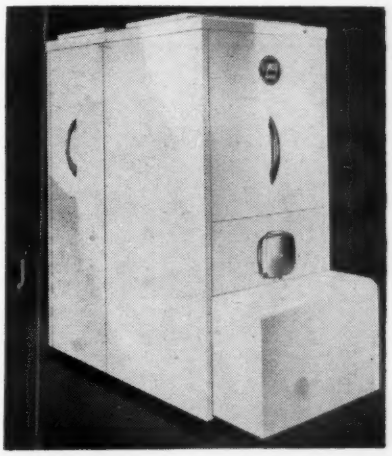
subsides, the system may go into a vacuum for a few minutes after which the discs dry and shrink, ready for another cycle.

The valves are made in one size for all applications, including radiators and mains, can be manually operated if necessary and operate in any position except upside down.

Made by: Taco Heaters, Inc., 137 South St., Providence 3, R. I.

Conco announces Ranchief basement Model Lo-Boy

THE ELEVENTH UNIT in its Ranchief line developed by Conco is the Ranchief Lo-Boy, an oilfired basement model rated at 70,000 Btu/hr at the bonnet. Either a vaporizing or pressure oilburner can be furnished. Before shipment the unit is fully assembled and fire-tested at the factory, fully-wired, including all controls. It features large heat exchanger surface, easy accessibility for cleaning and servicing, continuous air circulation and



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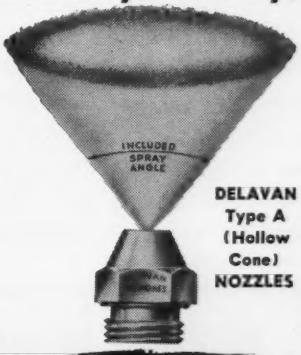
TRANSFORMERS

Nozzle TIPS

• How to Correct Smoky, Streaky, Unstable Fires —

when caused by high viscosity or very cold fuel oil: Increase the pump pressure to 125 psi. This increases fuel input by 12%. It may be necessary to use a smaller nozzle to maintain correct oil input.



DELAVAN Type A (Hollow Cone) NOZZLES

"IT PAYS TO USE DELAVAN NOZZLES"

Every DELAVAN nozzle is spray tested under controlled conditions.

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DELAVAN
MANUFACTURING CO.
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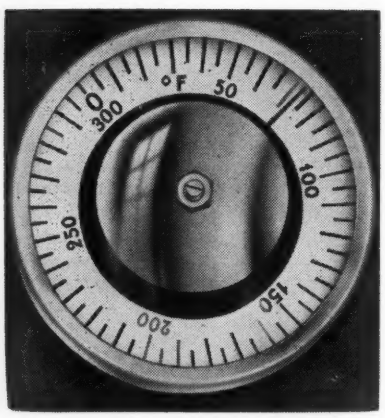
low-placed wrap-around radiator.

Addition of the Lo-Boy rounds out the Ranchief line to provide units for homes with up to 2,000 sq. ft. of floor space, with or without basements.

Made by: Conco Engineering Works, Mendota, Ill.

Pacific Transducer has compact surface Thermometer

A COMPACT, surface temperature thermometer that is 2" in diameter, weighs 1 oz. and is calibrated in 2° increments from 0° to 300° F., is recommended



for a variety of uses, including checking outside temperatures of pipes and determining wall, ceiling and floor temperatures. The thermometer has been thermo-dynamically designed so that it indicates temperature from the back of the instrument only and is not affected by external radiation.

Model 310 is affixed to any flat surface by applying a small amount of silicone grease, supplied with the instrument, and sticking the thermometer in place. The grease does not melt and provides an excellent thermal coupling. A magnetic clamp also is furnished to permit fastening the instrument to metal surfaces.

Made by: Pacific Transducer Co., 11921 West Pico Blvd., Los Angeles 64, Calif.

Clearance Light for petroleum Transports

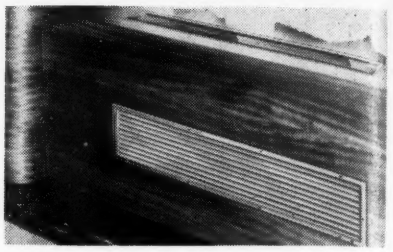
THE WARREN B-60, developed especially for use on petroleum transport equipment, is a heavy-duty, flush-type clearance light that is vapor and explosion-proof. The light meets or exceeds SAE recommended procedures, ICC and state requirements, is completely wired, ready for installation. A Snap Seal arrangement holds a plastic lens bubble-tight within a cast aluminum alloy body, which is also a parabolic reflector. The pressure seal is achieved through a special composition "O" ring that eliminates the need for screws or lens fasteners.

The lens is shatter-resistant and the one-piece reflector body is of minimum 1/8" thickness, including mounting flange. Another feature is a live-rubber "spring" that seals the socket and maintains firm contact between the bulb and pigtail rivet wire connection.

Made by: Betts Machine Co., Warren, Pa.

Titus introduces convector Grilles

A LINE of convector grilles, featuring custom designing at standard prices has been introduced by Titus. They feature rugged construction to withstand the heavy use encountered in lower wall installations and have close-spaced louvers to prevent paper or other foreign matter from being



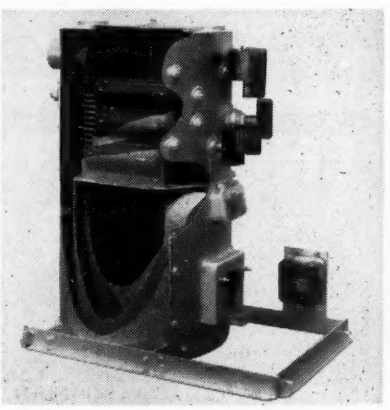
dropped between them.

Extra-heavy support bars on 6" centers give added strength to the grilles, which are made in a variety of sizes and have more than 70% free area. The deflecting blades are wider than normal. Grilles, which can be installed in marble, tile or other special surfaces, may be furnished with damper and knob control.

Made by: Titus Mfg. Corp., Waterloo, Iowa.

Weatherall boiler Units offered in five Sizes

WEATHERALL automatic oilfired steel boiler-burner units are being offered



in five sizes. Net ratings range from 320 to 900 sq. ft. of steam, 510 to 1440 sq. ft. of hot water radiation for these units, which are compact and occupy small floor space, so that they

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STANDARD AUTOMATIC OIL BURNERS
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are ideal for utility room installtaions.

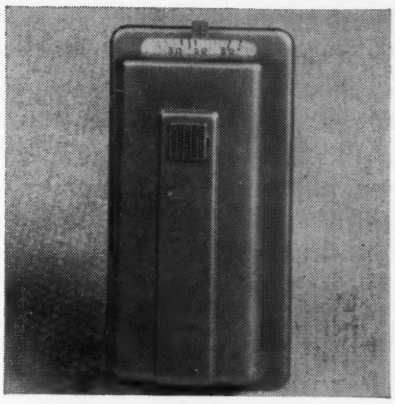
Instantaneous hot water heating coils are standard equipment and since the units are shipped complete, they include also a model AL Weatherall oil-burner. Extra corrosion resistant steels are used, automatically welded into complete one-piece boilers and the models also feature large, water-backed radiant heat absorption areas. The boilers are built to conform to ASME Code requirements.

Made by: Weatherall Engineers, Inc., 357 Charles St., Providence 3, R. I.

M-H develops Low-cost Humidity controller

A HUMIDITY CONTROL was designed primarily for manufacturers of portable and package humidifying and dehumidifying systems and other applications which require a low-cost humidity controlling device. Developed by Minneapolis-Honeywell Regulator Co., it is now in volume production.

The control, when tested, proved to



have an operating differential of less than 5%. During the test, air was moving through the chamber at 1,200 feet per minute, the approximate air movement when the controller is mounted in a duct, and the rate of humidity change was 1% per minute. Honeywell engineers said the differential would be even less when the rate of change of humidity is slower.

Heart of the electrical humidity device is a hair element.

Made by: Minneapolis-Honeywell Regulator Co., Minneapolis, Minn.

New White Transport has extra carrying Capacity

A NEW PETROLEUM transport unit, made by White and owned by the Ray Smith Transport Co., was exhibited in Houston recently. The unit boosts tank capacity 700 gals., yet remains well under the 58,420 lb. gross allowable weight in Texas.

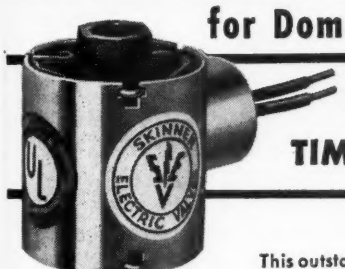
In addition to the extra tank capacity, made possible by new weight distribution and shorter wheelbase, this White 3000 series unit, features safety and visibility advantages, as well as riding ease and improved maneuverability. The transport is equipped with White's power-lift cab, providing complete front-end accessibility at the turn of the wrist.

Made by: The White Motor Co., Cleveland 1, Ohio.

Announce new Scotsman console oil Heater

ADDITION of a new Scotsman console heater, Model AO-70, has been announced, with Btu output of 70,000 per hour. The model is equipped with

NEW SKINNER DEVELOPMENT
for Domestic Oil Burners



NEW V2-500 TIME DELAY VALVE

HELPS ELIMINATE SOOT & BACKFIRES
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SMALL & COMPACT WEIGHT ONLY 9 OZ.
★
SAFE & SURE
★
SAVES FUEL
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UNDERWRITERS' APPROVED
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LOW COST
★
PROMPT DELIVERY

This outstanding new Skinner development promises new customer satisfaction whether installed on new or old oil burners. The V2-500 operates as follows: After blower, motor and pump start, the valve delays 5 to 6 seconds before releasing oil. At end of heating cycle, valve closes instantly preventing combustion while motor, pump and fan coast to a stop. This assures adequate air volume at start of combustion cycle, improves draft and helps eliminate sooty conditions. Valve is two-way normally closed; rated at 115 p.s.i. max. Coil is continuous duty rated at 9 watts max. Write for details and low prices!

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Quickly and easily installed in dark or close quarters, Lovejoy Flexible Couplings can't fall off when blower or pump units are serviced. Rubber center unit increases flexibility and eliminates noise. Positive correction for misalignment, shock, vibration, backlash. Most fan manufacturers supply blowers with Lovejoy jaws on blower hubs at no extra cost.

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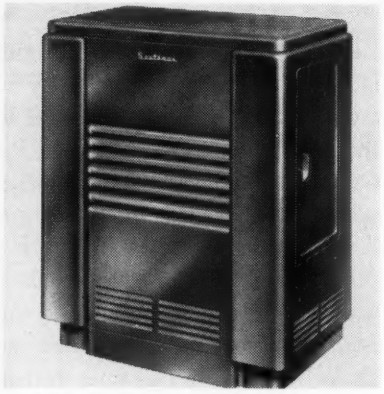
Also mfrs. of Lovejoy Universal Joints and Lovejoy Variable Speed Transmissions.



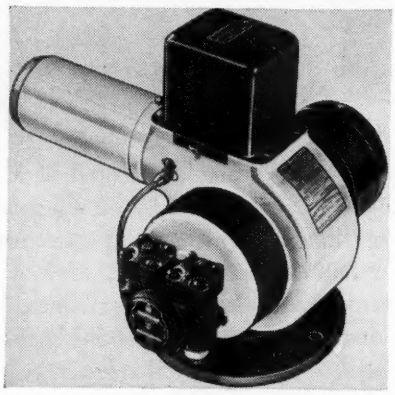
two "Thrift-Pilot" burners and two square heat chambers. The consumer uses one or both burners as outside temperature conditions dictate.

The "Thrift-Pilot" burner is a true modulating type that can be turned down to pilot stage where it burns only one quart of oil in 12 hours. A large heat economizer and modern furniture styling are other features. Additional Scotsman oil heaters range in capacity from 37,000 to 66,000 Btu/hr.

Made by: American Gas Machine Co., Albert Lea, Minn.

Sun-Ray announces low capacity Burner

A MODEL, with capacity ranging from 0.50 to 1.35 gph, has been added to the Sun-Ray line of high pressure atomizing oilburners. It carriers Underwriters' approval under Commercial Standards CS-75 and has been designed



for use with small boilers or furnaces.

Using a combination of air handling devices, an efficient, trouble-free method of atomization has been achieved. Simple in design, easy to install and service, the new burner can be supplied with pedestal or flange-type mountings.

Made by: Sun-Ray Burner Mfg. Co. 139-24 Queens Blvd., Jamaica 2, N. Y.

Lennox OL Burners covered in Manual

LENNOX FURNACE CO., Marshalltown, Ia. covers its Micro Mix OL series pressure oilburner in an installation and service manual, which is made available to dealers handling its equipment. A rating table gives capacities and dimensions for available sizes, with a general description giving details of operation and component parts. Installation instructions describe and illustrate methods of selecting the proper sized burner and its combustion chamber, tank and piping hook-ups for inside and outside tank installations, final inspection and test and the steps required for an installation to comply with Commercial Standard CS-75.

Service information is arranged by specific trouble and remedy. Drawings of the burner are included, numbered to correspond with an accompanying parts list, with a set of service sheets on Sundstrand and Webster fuel units also incorporating parts lists.

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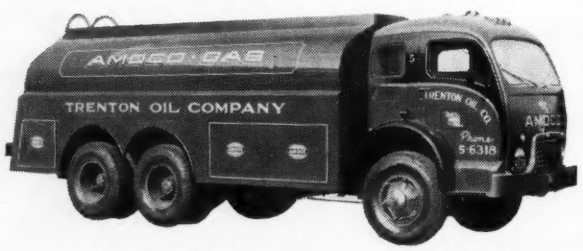

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HEATING PUBLISHERS, INC.

232 Madison Ave. New York 16, N. Y.

Names in the News

(*Begins on page 8*)

Richard H. Ewert has been appointed general manager, office sales div., White-Rodgers Electric Co., St. Louis 6, Mo., handling all inside sales activities. Ewert formerly was assistant sales manager and mechanical engineer, Illinois Gear & Machine Co., Chicago and staff engineer, Barco Mfg. Co., also of Chicago.

Max Banzhaf has succeeded E. Cameron Hawley as director of advertising and promotion, Armstrong Cork Co., Lancaster, Pa. Mr. Banzhaf joined the Armstrong organization in 1938 as a salesman; in 1944 he transferred to the advertising and promotion dept. and by 1951 became assistant director of that department. Seven months ago, in Mr. Hawley's absence, he was appointed acting director.

A. J. Tener, vice-president, Perfection Stove Co., Cleveland 4, O., has been named director of market research and *J. C. Scott* assistant director. The newly created market research div. will be concerned with market analyses, sales forecasts, studies of marketing areas and territorial boundaries. Tener came to Perfection in 1937. He was promoted to a vice-presidency in 1947, also serving as assistant to the president. Scott started as a clerk in the statistical dept. 29 years ago. For past several years he has been statistical supervisor.

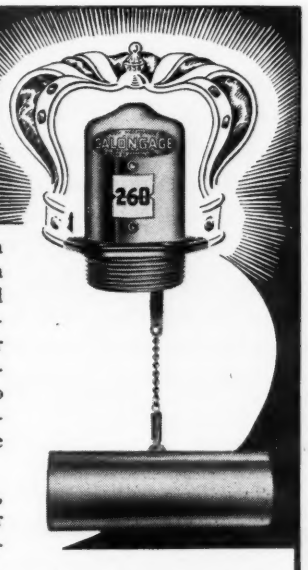
Nicholas H. Richfield has been named manager, Application Selling Dept., American Radiator & Standard Sanitary Corp., Pittsburgh 30, Pa., succeeding the late Walter Wehner who died suddenly. Mr. Richfield joined American-Standard in 1938, working in the department he now heads since 1949. The function of the application selling department is to provide the company's selling organization, customers and installers with information covering the installation, operation and servicing of American-Standard products.

Frank Eugene Rackliffe has been elected to the board of directors and assistant to Frank E. Rackliffe, Jr., his father and president of Rackliffe Oil Co., New Britain, Conn. "Gene" will have charge of general sales, sales promotion and advertising, in addition to other duties of customer relations manager, burner service and heating installation manager.

W. W. Kovalick succeeds J. W. Dean, who resigned, as production manager, Ingersoll Products Div., Borg-Warner Corp., Chicago 4, Ill. *H. T. Burke,* formerly chief tool engineer, becomes acting chief engineer.

Robert A. Stromberg, New York-New Jersey district, was one of five men added to the field staff of the Oil Industry Information Committee, American Petroleum Institute. Mr. Stromberg will make his headquarters in New York City. Other field men named were: *David H. McIlvaine,* Middle Atlantic district, formerly assistant publicity director for the University of Pennsylvania; *John M. Marsh,* Kentucky-Ohio-Tennessee district, formerly with the editorial staff

For that EXTRA PLUS .. Galongage



To meet today's competition you need something more than just "Good enough." You need the plus values of top performance and established consumer acceptance. Galongage is designed to do just that — to satisfy the most exacting requirements and do credit to the finest installation.

So when installing or checking, make it Galongage for greater efficiency and customer satisfaction.

International

Highest grade lever arm type gauge to team with

GALONGAGE

- Flexible float arm
- Rugged and durable
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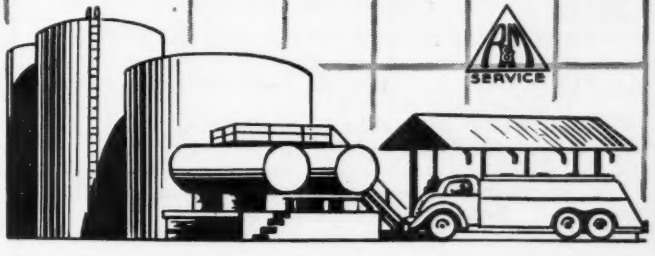

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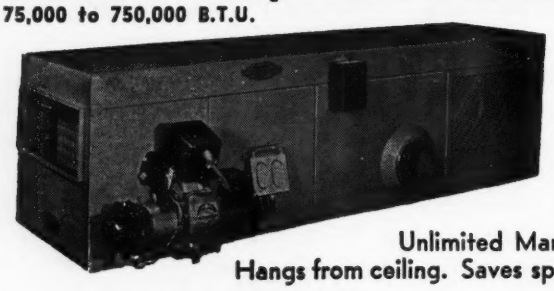

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. . . . Names in the News

of Standard Oil Co. (Ohio); *Jacques Ellison,* Kansas-Oklahoma district, previously publicity director for University of Oklahoma and *James O. Kemm,* Iowa-Missouri-Nebraska district, a Springfield, Mo., newspaper man.

George Armour has become manager of the central region for the Iron Fireman Corp., Cleveland 11, Ohio, and will make headquarters in Chicago. He formerly was with Midwest Iron Fireman Co., Madison, Wis. and, before that, sales manager of the company's Canadian Div. at Toronto and a district sales manager in the Northwest Div. Other appointments: W. J. *Fritz,* a member of the Iron Fireman field organization for the past 18 years, made manager of the Pacific Coast region with headquarters in Seattle; *E. V. Crossin,* a district manager in the Southern Region since 1947, promoted to manager of the Region, working out of Atlanta and *Rod Lawrence* named district sales manager, Alberta-Saskatchewan territory by Iron Fireman Mfg. Co. of Canada, Ltd.

Harry M. Carpenter, Kingston, Mass., since December 1 has been functioning as a district sales manager in New England for the Iron Fireman Corp. Carpenter, for a number of years with York-Heat, both at the factory and as a field man, is concentrating on Iron Fireman's entire line of automatic power and heating equipment.

Harold H. Hatch, manager of the repair dept., for Controls Div., Perfex Corp., Milwaukee, Wisc., has been named Service Manager. Hatch came to Perfex in 1936 having previously worked for the Milwaukee Gas Specialty Co., and for Western Electric both in Milwaukee and Chicago.

J. M. Johns has been appointed general manager of Libbey-Owens-Ford Fiber-Glass Div., LOF Glass Co., Toledo, O., succeeding Robert E. Worden. Johns joined LOF in 1922 serving as a tank shift foreman, sales representative, sales manager and, previous to his new appointment, he was general manager of industrial sales.

Louis C. Vandertill was named sales promotion manager and *Bruce York,* advertising manager, for Duo-Therm Div., Motor Wheel Corp., Lansing, Mich. Vandertill joined Duo-Therm in 1947 as assistant advertising manager and, in 1949, became manager.

Felix Wengerter has been appointed district manager, New York branch office for General Controls Co., Glendale, Calif. Wengerter's position entails complete charge of New York and Newark branch office territory activities, including sales engineering and service of General's line of automatic controls.

Wharton Clay, secretary-treasurer of the National Mineral Wool Association and an executive in other trade organizations, died of a heart ailment in his home, 30 East Sixty-eight St., New York, N. Y., at the age of 70. He had been ill for six weeks. Mr. Clay was a pioneer in conducting trade association activities in the building industry. Surviving are his widow, Annette M. Clay, three daughters and a son.

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Manufacturers of all types of thermistors

Know Your Costs

(*Starts on page 59*)

b. the cost of supervised service labor,

c. the cost of selling and delivering the product,

d. the cost of administration,

e. the retail sales price.

3. The mistake of the independent distributors who are responsible for the greater portion of retail distribution in permitting their prices to be "set for them" by an integrated company who often-times does not have enough fuel oil volume or service in a given area to be of the slightest consequence.

Can it be fear of any kind—loss of business, reprisals, or what not—which has arrested consideration of a possible change from archaic principles and practices in favor of a new policy which would be more in keeping with the present day realities?

4. The integrated company invariably has at least five levels of operation from which to accumulate gross profits:

a. production,

b. transportation of crude from the well to the refinery,

c. refining the crude into many products,

d. transportation of the finished product to the bulk terminal, and

e. retail sales and distribution to the ultimate consumer.

5. The integrated companies are rarely ever a vital factor insofar as fuel at retail is concerned, yet in a practical way, they set the top level price, and in consequence of this fact, are responsible for the inadequate gross margin permitted for the independents.

6. But, since the integrated units of the industry do most if not all of the refining, the independent distributors must naturally look to them for their supplies of fuel oil.

7. Thus far, as a class, the integrated companies have failed to concretely recognize *the basic principle of providing margins which, percentage-wise, would be more directly proportional to the overall cost of doing business, and to the gross revenue from a soundly established sales price; margains which, in any event, must be sufficient to insure a more reasonable return to the distributor for the capital risk and service involved.*

8. The integrated companies in general have made little or no successful progress in the sales and servicing of oil burning equipment, and, generally speaking, not too much of a success in the retailing of fuel oil.

9. The independent distributors, however, are primarily responsible for creating and caring for a tremendous consumer demand.

10. They, unlike most of the integrated companies, have pioneered in the sale and servicing of equipment often at a loss, for the sake of building and maintaining retail fuel oil volume.

11. The failure of so many distributors to maintain adequate though simple records of reasonable segregated costs has been largely responsible for industry not being sufficiently alerted to bring about a unified demand for establishing proper proportional gross margins for fuel oil.

12. There has been too great a lack of uniformity in methods employed in

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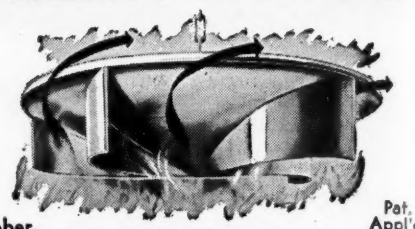

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. . . Know Your Costs

the determination of costs. *This deficiency should be remedied as quickly as possible.* More local, regional, state and national organizations or informal group of distributors who are interested in self-preservation should adopt more uniform methods of cost finding.

13. Bureaucratic price controls under O.P.S. serve to emphasize the necessity of adopting and maintaining proper cost records, for true cost figures will certainly be required in support of demands for a more equitable gross margin.

14. The industry as a whole has never been closely enough united in a demand for at least a thirty-five per cent gross margin of the actual retail price of fuel oil. Such a margin was available at least in limited areas during part of 1939.

Some Sound Measures for Relief

From this analysis, the situation certainly must not be considered hopeless, for such is not the case.

It should stimulate new and vigorous determination in the mind of every sensible, clear thinking fuel oil distributor to realize as never before just how *many means of relief* are actually available.

Preventive measures in keeping with the old bromide, "An ounce of prevention is worth a pound of cure," should be invoked as a basic policy principle governing all phases of the business—sales, installations and service, plant operation, fuel oil deliveries, credit and general office policies and procedures and the administration.

As has been stated herein, it is surely better to carefully weigh the possible needs of anything that requires an expenditure of time or money, and the anticipated results therefrom before going into action.

The ability to analyze a possible outright monetary loss, or a relative lack of profitable results if a certain thing is done one way, rather than by another method, should become almost second nature.

Such an attitude on the part of management should so enthusiastically prevail as to become an example to be followed by each and every other member of the organization.

In an earlier article, stress was placed upon the value of presenting facts concerning costs, frankly and directly before the employees, in a special effort to command their full cooperation.

Properly presented, and through management setting the pace by sound example, the employees should and doubtlessly will readily recognize their responsibilities they must assume in connection with their own particular work.

In the final analysis, it would be only the stupid and bullheaded type of employee who may get any crazy ideas that his own personal security and compensation will not be directly influenced by how efficiently he may do his work.

Another way of stating it, rather bluntly, in effect is that where margins are limited—and they perhaps always will be—any increased monetary compensation must be offset by *increased individual productivity* insofar as humanly possible.

The unions and their delegates not-

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withstanding, any employee so utterly stupid and disloyal as not to recognize the justness of this statement would do the distributor a very great favor by leaving the services of the company.

Unfortunately, certain segments of the industry have been the "helpless victims" as it were, of some radical lunatics in the person of so-called union leaders who simply make it a little more difficult, under the circumstances, for the management to get a truly fair return from the payroll dollar.

Particular stress is placed upon the theme of "Premeditated Controls Over Cost" and along "preventive lines" because an employee who is loafing or "goldbricking" on the job is simply making it that much more difficult for another, really honest employee to gain suitable recognition and commensurate reward for his efforts.

The plight of the distributor in respect to an inequitable percentage of gross margin is a very real one. The final solution, while clearly implied in the foregoing, is not going to be realized by any apathetic attitude on the part of the industry itself.

No government or regulatory authority, nor any "committee for the preservation of small business" is going to voluntarily bring relief.

None of the integrated companies or refineries whose products are distributed through the retailers, are at all likely to voluntarily thrust upon the table a new set up on gross margins for the distributors to enjoy.

There is no "champion," political or otherwise, who, singly and alone is going to take up the cudgel and bring about the changes known to be logical and equitable in the matter of gross margins.

There is no association or organized group, large or small, which can be expected to successfully work for relief, without a great deal of cooperation from the individuals who expect to share in any change of fortunes.

In other words, this is not going to be a case of "letting George do it," for "George will never get around to it."

It is most unlikely that there will be any need for the use of any activity or device other than the simple portrayal of facts, and sincere cooperative effort among the distributors, and in turn, their working aggressively but harmoniously together with their suppliers to bring about the realization of the necessary objective.

The stockholders have a definite right to expect a reasonable return in proportion to the sound capital investment required and the hard, intelligent work of management in safely conducting an enterprise which can proudly stand on its own record of service to the consuming public, whose support makes its very existence possible.

❖

G. B. Richards has been elected president, OPW Corp., Cincinnati, O., manufacturers of valves, fittings, and assemblies for handling hazardous liquids. Previous to his association with OPW Corp. as executive vice-president in 1949, Mr. Richards was general sales manager, Firth Sterling Carbide & Steel Co., Pittsburgh, Pa., and of the Bostitch Co. He has also served as a sales executive with Imperial Belting Co., Chicago, Ill., and with Firestone Tire & Rubber Co.

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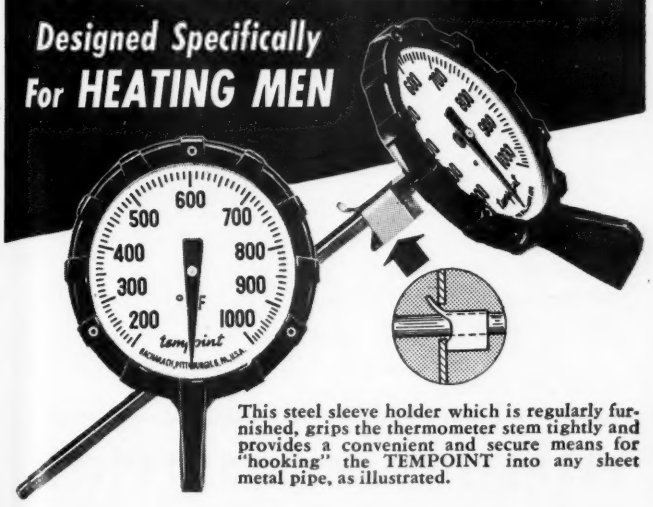

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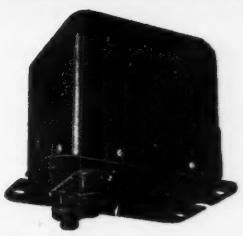

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ROCKFORD, ILLINOIS

Cut-off Problems

(*Begins on page 57*)

The rate of drop will depend upon the extent of damage to the cut-off seat.

Consider what happens in this test. When the unit is running, the regulating valve allows oil to flow to the nozzle line port which has been blocked by the pressure gage. When the burner is shut down and cut-off occurs, this oil is trapped in the gage since there is no opening to the atmosphere. If the cut-off seat is damaged, oil in this trapped line can flow past the defective cut-off seat back into the fuel unit, and the gage pressure drops to 0—psi.

If the cut-off seat is found to be defective, the unit should be removed and returned to an approved service station for repair.

In most cases it will be found, however, that improper cut-off is not a result of pump failure but of incomplete purging of air from the system. Cooperation by installation or servicemen in purging this air from the system can save many man-hours and service callbacks.

Howard H. Ingersoll has been named assistant general manager of the domestic sales dept., Atlantic Refining Co., Philadelphia, Pa. Previously, he had been serving since 1931 as manager of the company's Southern marketing region. Ingersoll first joined the company in 1915 as a salesman and remained until his entry into the army in World War I. In 1930, he rejoined Atlantic as manager of the company's Delaware marketing district.

Harry Vonhof, combustion engineer for Socony-Vacuum Oil Co., Rochester, N. Y., for sixteen years, died at the Highland Hospital in Rochester. He was fifty years old. Funeral services took place at the Christian Reformed Church and he was buried at Mt. Hope Cemetery. Vonhof was a member of the Oil Burner Industry Old Timers Club, Rochester Engineering Society, Rochester chapter of the Oil Heat Institute, the Liederkranz Club and other organizations. He is survived by his wife, Katie Vonhof; his mother, a daughter, two sons, a sister and four brothers.

Oilheating Trends

(*Begins on page 24*)

watch very closely to make the present system work . . . Where a customer insists on phoning tell them that they will have to switch over entirely to a call-in system but that if they let themselves run out the company will not make emergency deliveries after 5 p.m. or on Sundays, whereas on automatic deliveries a run-out would be the company's fault and oil will be delivered at any time . . . One company tells these customers who phone in that if they let them run out of oil on automatic deliveries they will discount the next bill 20% . . . One company explains the amount of reserve set up for each customer and then tells them no delivery is due until they start to draw on the reserve.

OUTSIDE TRUCKING: Fueloil distributors have to own quite a number of trucks because of the mid-winter peak. More often than not 2 or 3 trucks will stand idle nine months of the year. In some cities, particularly in the Mid-Atlantic area a fueloil man is able to

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hire outside companies to make some of his deliveries for him during the winter peak. Among all reporting fueloil distributors 14% hire others to make some of their winter deliveries. In the Mid-Atlantic area this figure is 24%. The companies that use these outside delivery firms depend on them for 20 to 25% of their output during January and February. It is easy to see that this reduces by that amount the number of trucks the oil company must own. These outside trucking companies in every instance reported in this study are paid by the gallon. The rates run all the way from .4¢ per gallon in small communities up to 1.25¢ per gallon in New York City. The average of all reporting companies is .7¢. These outside hauling contractors usually have seasonal work in the other direction so that their winters are slack. They remove another body from a chassis and put on a truck tank for this special work. Among the reporting companies that use these outside truckers on retail deliveries not one of them has his name attached to the trucks of these haulers.

A lot of fueloil distributors like this idea as indicated by their answers in this study. Taking the whole reporting group, 14% now use these contract haulers, another 39% would like to use them if they were available in their communities and the remaining 47% see no advantage in them.

FUELOIL STOCKS: Stocks of distillate heating oils at refineries, terminals, or in transit East of the Rockies on January 5 were 70,827,000 barrels. This compares with 55,731,00 barrels on the corresponding date last year, showing a rise of 27%. Since the number of oilburners in use increased during that year only 11%, it is obvious that the supply position is comfortable.

DEALER COMMENTS: Typical comments on questions of the month are these: "For water heating in our area the propane dealers are growing by leaps and bounds; their talking point is water heating and cooking from the same fuel tank" . . . "We would like to have an outside hauling company for winter providing they are not contemplating going into business for themselves and pulling our customers as we have known to happen" . . . "Furnace coils are frowned on here in connection with domestic water heating" . . . "Labor unrest continues our main headache; we now believe that a union embracing only truck drivers and the burner service men would eliminate a constant source of trouble" . . . "The outside trucking idea is good if the company is thoroughly reliable and not in the oil business itself" . . . "We use outside truckers 100% all year" . . . "We don't use custom haulers because we want our customers served by experienced drivers who are familiar with our methods; all of our deliveries are automatic and we do not serve any COD customers" . . . "We are finding the large per cent of burner jobs installed too small for the houses; when we increase to proper radiation or ducts it makes the heaters still smaller; what can be done about this kind of chiseling" . . . "If you let outside help deliver your oil they would soon be offering the customer free service and taking your oil accounts."

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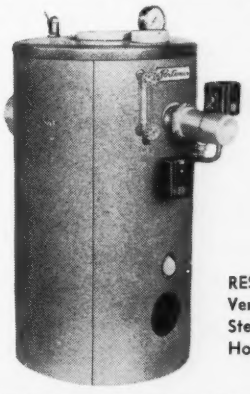

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Roy C. Hauck has been elected vice-president in charge of manufacturing and new product planning, Delta Heating Corp., Trenton 8, N. J. Hauck formerly was associated with Northwest Metal Products, Inc., Seattle, Wash. A mechanical engineer, he began his career with the Chevrolet Div., General Motors Corp. Since then he has served with the Dept. of Commerce Industry Advisory Committee and with the Mobilization Program of the Industrial War College.

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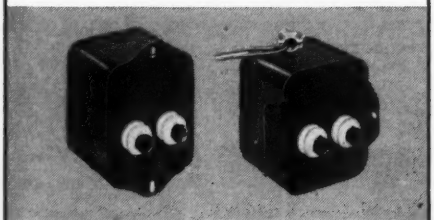

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DEGREE DAY TABLES

ONE MONTH ONLY — December Normal	December 1950	December 1951	Percent Change*		SEASON TO DATE (Sept. 1 to Dec. 31) Normal	1950	1951	Percent Change*
1139	1218	1169	+ 2.6	Albany	2421	2520	2691	+ 11.1
640	773	549	— 14.2	Atlanta	1175	1369	1170	— 0.4
852	894	734	— 13.8	Baltimore	1647	1599	1529	— 7.1
1000	904	923	— 7.7	Boston	2087	1846	1962	— 6.0
1102	1168	1062	— 3.6	Buffalo	2384	2424	2483	+ 4.1
1108	1271	1106	— 0.2	Chicago	2235	2341	2473	+ 10.6
953	1053	846	— 11.2	Cincinnati	1892	1945	1802	— 4.7
1040	1160	995	— 4.3	Cleveland	2174	2252	2640	— 1.6
571	571	479	— 16.1	Dallas	944	923	932	— 1.3
1012	819	1050	+ 3.7	Denver	2272	1824	2431	+ 7.0
1200	1387	1372	+ 14.3	Des Moines	2424	2574	2901	+ 19.6
1120	1218	1126	+ 0.5	Detroit	2369	2457	2476	+ 4.5
1129	1222	1126	— 0.2	Grand Rapids	2456	2470	2601	+ 5.9
1052	1024	1005	— 4.4	Hartford	2217	2129	2212	— 2.3
1245	1187	1563	+ 25.5	Helena	3074	3252	3704	+ 20.5
331	380	239	— 27.8	Houston	520	535	485	— 6.7
1026	1210	995	— 3.0	Indianapolis	2053	2244	2117	+ 3.1
986	1056	1056	+ 7.1	Kansas City	1877	1926	2154	+ 14.7
225	117	324	+ 44.0	Los Angeles	383	220	451	+ 17.7
875	1026	824	— 5.8	Louisville	1677	1868	1768	+ 5.4
1198	1437	1270	+ 6.0	Milwaukee	2515	2807	2942	+ 16.9
1415	1627	1500	+ 6.0	Minneapolis	3005	3198	3424	+ 13.9
305	358	199	— 34.7	New Orleans	475	577	473	— 0.4
934	924	798	— 14.5	New York	1859	1704	1694	— 8.8
1163	1252	1385	+ 19.0	Omaha	2310	2407	2810	+ 21.6
884	916	763	— 13.7	Philadelphia	1699	1676	1591	— 6.3
979	1084	881	— 10.0	Pittsburgh	2028	2097	1919	— 5.4
1172	1096	1219	+ 4.0	Portland, Me.	2602	2591	2775	+ 6.6
729	516	790	+ 8.3	Portland, Ore.	1676	1467	1656	— 1.2
1015	915	883	— 13.0	Providence	2157	1862	1914	— 11.2
803	939	817	+ 1.7	Roanoke, Va.	1612	1825	1754	+ 8.8
917	1087	924	+ 0.7	St. Louis	1729	1983	1935	+ 11.9
1040	894	1104	+ 6.1	Salt Lake City	2224	1829	2326	+ 4.5
426	345	459	+ 7.7	San Francisco	930	705	1009	+ 8.5
1373	1435	1448	+ 5.4	Sault Ste. Marie	3233	3338	3568	+ 10.3
708	520	773	+ 9.2	Seattle	1812	1571	1742	— 3.8
1090	1293	1150	+ 5.5	Toledo	2278	2551	2500	+ 9.7
870	907	746	— 14.2	Washington	1725	1633	1529	— 11.3

*Compared with normal.